

**HEALTH FINANCING IN
DEVELOPING COUNTRIES:
SYNTHESIS OF
APPLIED FIELD RESEARCH,
1989–1995**

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A B S T R A C T

This document presents the results from the applied research in health care financing in over 40 countries around the developing world conducted by the Health Financing and Sustainability (HFS) Project. It describes the conceptual framework and outlines for the agenda for the research. It presents the research results, summarizes the findings and policy recommendations, and points to areas for future research to support policy reform. There are nine general topics of research covered:

1. Quality of care and cost recovery
2. Protecting the poor under cost recovery
3. Efficiency in consumption
4. Provider incentives
5. Extending social financing
6. Public-private differences in efficiency
7. Private sector development
8. Public-private collaboration
9. Reallocating public sector spending

C O N T E N T S

EXHIBITS	iii
FOREWORD	v
ACKNOWLEDGEMENTS	vii
EXECUTIVE SUMMARY	ix
CHAPTER 1	
HEALTH CARE FINANCING IN THE DEVELOPING WORLD: POLICY ISSUES, OPPORTUNITIES, AND CONSTRAINTS	1
The health financing debate	1
Purpose and organization of this report	3
CHAPTER 2	
APPLIED RESEARCH AGENDA AND ACTIVITIES	5
HFS applied research topic	6
Applied research mandate and management	8
Applied research activities	9
Other research under technical assistance	10
CHAPTER 3	
FINDINGS	15
Quality of care and its role in cost recovery	15
Quality of care in government health services	16
Protecting the poor under cost recovery	21
Public sector reforms	30
Efficiency in consumption	31
Reallocating public sector spending	33
Expanding the role of social financing	35
Public-private differences in efficiency	40
Private sector potential for the delivery of health care in Africa	46
Economic impact of malaria in Africa	46

CHAPTER 4	
CONCLUSIONS: IMPLICATIONS FOR POLICY AND APPLIED RESEARCH	49
Quality of care	49
Cost recovery and equity	55
Efficiency in consumption	56
Provider incentives	57
Reallocation of public sector spending	57
Extension of social financing	58
Role of the private sector	58
Impact of HFS Applied Research	59
BIBLIOGRAPHY	63

E X H I B I T S

Exhibit 2.1	
Health financing and system performance	6
Exhibit 2.2	
Applied research agenda of the HFS Project: Research areas, topics, and questions	7
Exhibit 2.3	
Summary of major applied research activities	11
Exhibit 2.4	
Cost recovery pilot tests in Niger	12
Exhibit 2.5	
Selected smaller applied research activities	13
Exhibit 3.1	
Quality levels and measurements	15
Exhibit 3.2	
Medical personnel behavior for fever consultation in Niger and Senegal	17
Exhibit 3.3	
Drug prescription practices in private and government clinics, Senegal and the Congo	17
Exhibit 3.4	
Cost recovery and quality of care in the Congo	18
Exhibit 3.5	
Public-private comparison of quality of care in Senegal	20
Exhibit 3.6	
Willingness to pay for quality improvements in government health facilities in the Central African Republic	21
Exhibit 3.7	
Willingness to pay more to maintain quality improvements, and actual payment, cost recovery pilot test in Niger	22
Exhibit 3.8	
Cost recovery performance in government health facilities, cost recovery tests in Niger	23
Exhibit 3.9	
Cost recovery methods in pilot tests in Niger	23

Exhibit 3.10	
Utilization of government health services among the ill, by the poor and the non-poor, before and after the introduction of cost recovery, Niger	24
Exhibit 3.11	
Treatment-related health expenditures by income group, before and after cost recovery, Niger	26
Exhibit 3.12	
Use of government health services by the ill, selected population groups, before (B) and after (A) cost recovery, Niger	27
Exhibit 3.13	
Accuracy-cost trade-off in means testing under cost recovery	28
Exhibit 3.14	
Means testing for health services in practice, selected cases	29
Exhibit 3.15	
Efficiency and other incentives in government health services, selected examples	33
Exhibit 3.16	
Sources of inefficiency in health	34
Exhibit 3.17	
Proposed health subsidies in allocation model, Chile	39
Exhibit 3.18	
Evaluation of social financing in Niger	41
Exhibit 3.19	
Changes in utilization of both curative and preventive services, baseline and follow-up survey, Niger cost recovery pilot tests	42
Exhibit 3.20	
Cost and demand for health insurance, Niger cost recovery pilot tests	43
Exhibit 3.21	
Assessment of quality of public and private facilities in Senegal	45
Exhibit 4.1	
Inefficiency and waste in the supply of drugs	50
Exhibit 4.2	
Summary of HFS recommendations for policy and for future research	62

F O R E W O R D

Countries in all parts of the world are struggling to improve the quality of health services and ensure that their citizens get the basic health services they need. In the developing countries, the challenges have become even more difficult. For two decades, many developing countries have faced economic decline and reversal, leaving them unable to provide adequate public funding to support health programs. Many others are attempting complex economic and social reforms after many years under socialist regimes. These countries are finding that few if any models are available to guide their transition from socialist regime health systems to create the institutions and social financing mechanisms needed to support modern public health and medical care programs. Nearly all developing countries are attempting some type of health sector reform, often within the framework of change toward more open and democratic arrangements for their country's governance.

It is within this context that the U.S. Agency for International Development (USAID) began nearly two decades ago to support technical assistance, applied research, and training, with developing country partners, to find solutions for complex health reform and financing problems. Early on in this effort it became clear that no country offered models from their own experience which could readily be transferred in its entirety to developing country situations. While U.S. experience in trying to solve comparable health reform problems might provide some lessons for the rest of the world, the USAID activity has attempted always to look critically at all available options, from all parts of the world. In fact, USAID committed itself specifically to approaching the search for new solutions in health reform and financing as a matter for long-term collaboration with other countries, donors, and international

organizations. Sustainability of local programs, instead of long-term dependence on outside donor support, has been at the heart of our concerns in these efforts to raise quality and improve accessibility of services.

An additional developmental objective of the applied research program deserves mention, as well. From the beginning of USAID efforts to address health reform and health financing problems, there has been a commitment to assist in expanding the pool of qualified developing country specialists available to address these problems at home. Under the HFS Project, many developing country researchers participated in design, execution, and analysis of findings from the research reported here. We encourage the development community to recognize the continuing need to expand the pool of individuals trained and experienced in guiding health sector reform efforts. Skilled individuals are needed in nearly every country to address problems in health economics, health management, demographic and epidemiological analysis, and other areas of social service development. In addition, successful applied research efforts depend on recognition of the need for applied research by local health care workers, managers, and officials.

In this report from our Health Financing and Sustainability (HFS) Project, we provide results from a six-year research effort focused on the health reform and health financing needs of developing countries. Through this report, the HFS Project team summarizes the results of its applied research efforts, pointing to progress in our understanding of how to mobilize resources and use them more wisely within the health sector.

This applied research was conducted in developing countries and in most cases with developing country researchers. In these findings, the HFS team advances our understanding of practical ways to improve quality and accessibility of health services in specific developing country situations and of the complex underlying theoretical problems which make such research difficult to design and execute.

Their practical results provide guidance to those attempting to address similar problems elsewhere. Their contributions to solving the theoretical problems in economics, social program development, and organizational development through this research will facilitate further progress in our ongoing program of technical assistance in health policy and health financing.

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U.S. Agency for International Development and
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A C K N O W L E D G E M E N T S

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EXECUTIVE SUMMARY

Major improvements in health status have been realized throughout the developing world in the past four decades, but some countries, regions, and population groups have been left behind. The cost of preventable and treatable health problems is still enormous in terms of disability and human lives lost.

Good health is recognized as essential to well-being and to development, and inexpensive technologies are in hand for preventing and treating the most common diseases in poor nations. Although poor nations devote too little resources to health care, a major obstacle to progress is inappropriate use of what is available. Research and experience suggest that using existing resources more efficiently and equitably could enable larger gains in health status. Doing so is just as important in many countries as trying to increase resources for health care.

Main research topics

The HFS project was designed to help developing countries devise financing policies to improve the performance of their health systems and, ultimately, health status of their people. HFS applied research addressed key policy questions in health care financing, explored some neglected research areas, and attempted to improve analytical methods. HFS research was focused around the following nine topics:

1. **Quality of care and cost recovery.** Financing of health care quality improvements through cost recovery.
2. **Protecting the poor under cost recovery.** Methods for preserving equity under cost recovery.
3. **Efficiency in consumption.** Mechanisms to promote demand for cost-effective health services.

4. **Provider incentives.** Performance improvement in government health systems through personnel incentives.
5. **Extending social financing.** Feasibility of social financing and insurance of health services for low-income populations.
6. **Public-private differences in efficiency.** Relative efficiency of public and private providers in health services production.
7. **Private sector development.** Role of the private sector in health care delivery and determinants of private sector growth.
8. **Public-private collaboration.** Feasibility of pooling public and private health resources to improve health system performance.
9. **Reallocating public sector spending.** Reallocation of public resources toward cost-effective health activities and toward those most in need of assistance.

HFS Applied Research activities

HFS undertook over 40 applied research activities in about as many developing countries around the world. Most of these countries were low-income nations from sub-Saharan Africa, Asia, Latin America, and the Caribbean; a few were lower middle income. Much of the research was focused around the project's nine central research topics. For each of them, HFS carried out reviews of the literature and experiences and conducted field work. The latter was often undertaken in the context of technical assistance to governments, thus feeding directly into the policy-making process. For example, in Niger HFS helped develop a large health financing demonstration project seeking to inform decision makers about the strengths and weaknesses of national financing alternatives. The frequent reference to Niger in this document, as well as to Senegal and the Central African Republic, re-

flects the large size and scope of HFS research activities there.

Findings

Main findings from HFS applied research, organized by topic, are presented in the remainder of this Executive Summary. These findings reflect both results from field-based research and those arising from the project's reviews of the literature and experiences. This Executive Summary concludes with a discussion on the impact of HFS applied research. A summary of policy and research recommendations is presented in the exhibit on the following page.

1. Quality of care and cost recovery

Quality of care in government facilities was generally poor in most places where HFS carried out research. Users of government services typically were dissatisfied, leading to under-utilization of resources. In Belize, the Central African Republic, Fiji, Niger, and Senegal, a pervasive lack of essential drugs and medical supplies hampered government health care and led to low usage rates of curative, preventive, and maternity services. As a result, acute medical problems that account for most of the burden of disease in these countries, were left untreated. Generally, drugs shortages seemed attributable to: poor prescription practices by health staff; poor communications with patients; inadequate supply systems; failure to use generic essential drugs; inappropriate management of drug inventories; and insufficient financial resources to pay for drugs. Inappropriate medical practices were also common in government health facilities, making public health services ineffective, wasteful, and potentially harmful.

Medical practices and inventory management can be improved through better training in medical and nursing schools, periodic refresher training to health staff, and regular supervision. Generally, users should not be expected to pay for all those investments through cost recovery, as the evidence shows that user fees can at best recover the cost of drugs and the incremental costs associated with the management of drugs and cash. Governments could make a steady stream of funds available to finance this training.

Research on quality assurance currently underway (e.g., USAID's Quality Assurance Project), and additional research, could help illustrate the gains achievable through training and supervision.

These findings also suggest strongly that governments should reexamine their pharmaceutical policies. Countries with large public monopolies for importing and distributing pharmaceuticals should ask whether they are appropriate, considering their proven inefficiency and unreliability. Technical assistance, supported by applied research, should be undertaken to guide developing countries' decisions about how best to structure the pharmaceutical market.

Efficiency and equity implications of poor quality government services

Low-quality care in public premises makes the health system inefficient and inequitable. HFS documented three types of inefficiency. First, patients have to incur privately substantial travel and treatment costs when government care is deficient. In Belize and Niger patient costs outside of government services accounted for over half of their total treatment expenditures.

Second, poor quality curative health services can have negative spillover effects on preventive activities where demand is influenced by peoples' overall perceptions of facility quality. For example, when the quality of curative services improved in Niger, demand for curative care as well as for prenatal services both grew by about 40 percent.

Third, poor quality care reduces the effectiveness of the health system and the efficiency of government health spending. The lack of appropriate drugs, vaccines, and other medical supplies, irrational drug prescription practices, misdiagnosis, and poor communication with patients all result in low system effectiveness.

With respect to equity, research showed that the current system of poor quality government services, though free to patients, is inequitable. Inequity results from constrained financial access by the poor to private, paid care to complement or replace deficient government services. Data from Belize, Burkina Faso, the Central African Republic, Congo, and Niger showed that household health care expenditures increased with

income. Lower expenditure by the poor was the result of either lower consumption of services or use of less expensive and lower quality services. The research also indicated that the quality of government-provided health care is deteriorating in some countries, with a resulting decline in utilization. The adverse effect of declining quality and utilization on health status may be particularly felt by the poor who have relatively less access to alternative sources of care.

Willingness to pay for public sector quality improvements

Survey analysis and work in focus groups in Belize, Burkina Faso, the Central African Republic, Fiji, Niger, and Senegal showed that willingness to pay for quality improvements in government health services was high among all population and income groups. In every case, reported willingness to pay significantly exceeded the cost of needed quality improvements. Further, analysis of actual patient health expenditures in Belize and the Central African Republic showed that actual patient treatment expenditure in the private sector exceeded the cost of needed quality improvements in public facilities.

Equity implications of user fees

HFS research showed that, under some circumstances, user fee revenue permits substantial quality improvements and enhances access to quality care by the poor. Thus, a policy of user fees for curative government services can be more equitable than one of free provision of poor quality care. However, as seen in Niger, even modest fees may constitute a financial barrier to access by the poorest, thus limiting the equity gains associated with the quality improvements. Systems for exempting patients from fees based on ability to pay are necessary to mitigate negative equity impacts.

HFS research suggests that effective mechanisms for means testing will not fully eliminate utilization gaps between the poor and the non-poor. Inequity in physical access, socio-economic,

and demographic characteristics, are also responsible for differences in use of health services.

Exemption policies under user fee systems have been poorly implemented. Technical assistance and research are necessary to document and evaluate existing exemption systems and to help develop systems where needed.

Financing pharmaceuticals

HFS research in Niger—one of the world's poorest countries—found that cost recovery through social financing may be one of the most effective ways to cover the cost of essential drugs for treating ambulatory patients. But evidence from this and other countries shows that cost recovery in the form of user fees—when they are relatively low—may not always suffice to pay for drugs. This is not surprising, because everyone pays taxes but fees are paid only by individuals who obtain services. The most important non-financial factors for high rates of cost recovery appear to be use of appropriate drug and cash management systems, the proficiency of medical staff in diagnostic and treatment practices, and the use of generic essential pharmaceuticals.

How to structure cost recovery

Practitioners and the literature have widely discussed how to structure cost recovery: which system to use; how much to charge for various health care services under a fee-for-service system; how much to charge different groups of patients (e.g., based on income, age, gender); and other questions. HFS research addressed these questions in several countries, generally confining its effort to the study of two main types of payment systems: 1) social financing and insurance (including prepayment) and 2) fee for service. Each system has advantages and disadvantages; which one should be adopted in each situation mainly depends on income of the population, trust in the government system, presence of managerial and actuarial skills, and existence of mechanisms to invest financial proceeds.

Exhibit 1. Summary of HFS recommendations for policy and for future research		
POLICY REFORM AREAS	POLICY OBJECTIVES AND ACTIVITIES	FUTURE RESEARCH NEEDS
IMPROVE QUALITY IN GOVERNMENT SERVICES	<ul style="list-style-type: none"> ▲ Improve staff training and supervision through public funding 	<ul style="list-style-type: none"> ▲ Quality assurance ▲ Costs and benefits from improved training and supervision
REFORM PHARMACEUTICAL SECTOR	<ul style="list-style-type: none"> ▲ Dismantle inefficient public monopolies for importation and distribution of pharmaceuticals ▲ Allow private sector to enter the market ▲ Adopt and effectively enforce essential drug policy ▲ Develop required regulation and legislation 	<ul style="list-style-type: none"> ▲ Efficiency and reliability of existing arrangements ▲ Industrial organization of pharmaceutical market
INSTITUTE COST RECOVERY	<ul style="list-style-type: none"> ▲ Support adoption of user fees and insurance ▲ Fund development of improved systems for management of drugs and cash 	<ul style="list-style-type: none"> ▲ Equity and efficiency implications of fees ▲ Methods to preserve equity under cost recovery
STIMULATE APPROPRIATE DEMAND	<ul style="list-style-type: none"> ▲ Invest in education and dissemination of information about benefits from consumption of under-utilized services ▲ Adopt pricing, reimbursement and other consumer and provider incentives to stimulate demand for and supply of cost-effective services 	<ul style="list-style-type: none"> ▲ Barriers to demand for cost-effective services ▲ Policies to overcome such barriers
PROMOTE SOCIAL FINANCING	<ul style="list-style-type: none"> ▲ Support initiatives to develop social insurance for comprehensive package of health services 	<ul style="list-style-type: none"> ▲ Social financing ▲ Demand for insurance and for services under insurance
DECENTRALIZE AND PROVIDE INCENTIVES	<ul style="list-style-type: none"> ▲ Further decentralize health services ▲ Transfer staff to local level 	<ul style="list-style-type: none"> ▲ Incentive schemes
IMPROVE REIMBURSEMENT METHODS	<ul style="list-style-type: none"> ▲ Adopt new systems for the transfer of public funds to government health service providers 	<ul style="list-style-type: none"> ▲ New methods for the transfer of funds
DEVELOP PRIVATE SECTOR	<ul style="list-style-type: none"> ▲ Remove barriers to private provision and financing of health services ▲ Engage private production where advantageous 	<ul style="list-style-type: none"> ▲ Cost advantages of private sector ▲ Mechanisms for public funding of private provision

In Niger, a form of social financing (tax-based prepayment and copayment at the time of use) generally performed better than fee-for-service, as it made access to care more equitable and as it achieved full cost recovery. As countries evolve, most eventually choose some kind of risk-sharing mechanism to pay for health services. Most poor countries already have a social insurance system—the network of government health services—but it functions poorly due to insufficient resources and poor management.

The pervasiveness of fee-for-service and the rarity of private insurance in the poorest countries suggest that the conditions required for insurance are seldom present. Future projects like HFS should help governments and communities determine which system best suits their needs and fits within their existing constraints.

How much to charge, for what services, and to whom?

HFS was involved in a number of projects that examined these questions (e.g., Belize, Burkina Faso, the Central African Republic, Egypt, and Niger). Where a fee-for-service system was developed, fees for all curative services were generally set equal to marginal cost (the cost of drugs and medical supplies), with some price cross-subsidization between some services, and between adults and children. Exemptions were seldom granted for cost-effective and under-utilized curative services such as the treatment of tuberculosis or venereal diseases. Exemptions to promote equity were usually based on informal systems of uncertain effectiveness (*see Protecting the poor under cost recovery*).

HFS found everywhere that preventive services were generally offered free of charge, although nominal fees were sometimes found and some surveys documented people's willingness to pay for preventive services such as child immunizations. These pricing practices were in compliance with the principle that preventive services should generally be subsidized because of under-appreciation of benefits and externalities.

Cost recovery and health system rationalization

Cost recovery is promoted not only for its revenue-raising ability but also for its capacity to encourage rational demand for services. Referral fees can help discourage patients from bypassing lower level facilities in favor of hospitals, a practice that generally hurts systemic efficiency. Higher fees for services with small health returns and lower fees for services with a high health payoff help promote appropriate demand.

HFS found that cost recovery in ambulatory facilities is often instituted without reference to costs and cost recovery in upper level facilities. Thus, the potential for benefiting from referral fees is often missed. Also, user fee systems in hospitals are usually complex while in ambulatory settings they are typically too simplistic, thus missing a chance for thought-out but simple fee schedules that can promote more efficient demand. Integrating the cost recovery policies of ambulatory and upper level facilities into a single, coherent policy should be a priority, together with improving the structure of pricing.

2. Protecting the poor under cost recovery

A number of countries have used means testing to identify and exempt from payment patients with limited ability to pay, but documentation and evaluation of their programs has been sparse. Few successful means testing programs have been carefully designed and executed. Korea's centrally administered system, providing three levels of subsidies and awarding interest-free loans for costly medical bills, looks like a good teaching model for other countries with strong administrative and record-keeping systems.

Many means testing programs studied suffer from weaknesses in design and execution. Lack of staff incentives to enforce means testing is viewed as a central cause of weaknesses. In Belize and the Dominican Republic, poor enforcement of means testing is manifested through the adoption of arbitrary criteria for determining ability to pay and eligibility, inconvenience to patients, and inconsistency in the granting of exemptions. In Kenya, on the other hand, where user fees constituted the sole source of facility revenue,

exemptions were tightly controlled and seldom awarded.

Means testing programs are worthwhile only as long as the cost of identifying patients entitled to exemptions is below the losses through leakage of benefits to the non-poor. This leakage cannot be completely eliminated because costs rise as screening for ability to pay intensifies. Evidence on the large magnitude of misdirected subsidies, however, suggests that reducing leakages should be cost-effective. Finding socially acceptable and inexpensive mechanisms for identifying ability to pay remains a major research and policy challenge to governments, communities and development agencies.

Defining and measuring equity and targeting government subsidies

Equity is one of the most important yet least understood concepts in health care policy research. A review of the literature reveals that only a handful of authors have attempted to define equity in the health sector and that even fewer have applied those definitions to the empirical measurement of equity. Developing clear definitions of equity that can be empirically tested should be a priority for health system researchers. Then, as a priority analytical effort, they should assess how equitably government resources are being spent.

3. Efficiency in consumption

A main message of the World Bank's World Development Report 1993 concerns the need to focus health resources on interventions that yield the greatest health gains per dollar spent. For efficiency and equity reasons, the Report recommends a basic package of cost-effective services for all, paid for from government's general revenue. But offering such services may not suffice to achieve appropriate levels of consumption of cost-effective care. Mounting evidence suggests that more attention must be accorded to demand.

Inadequate consumer knowledge about the benefits of some services is partly to blame for low use of preventive services. In the Central African Republic and Niger, despite appropriate infrastructure to assist deliveries in maternities, demand remains low and maternal and infant mortality rates high. In

Zaire, AIDS prevention efforts have been obstructed by misconceptions about the spread of the infection. In Malawi, misinformation led pregnant women to refuse to take chloroquine as an anti-malarial prophylaxis.

Health system planning and program design should accord greater importance to policies that promote appropriate demand. These policies include: providing information, involving communities in promotion, and furnishing incentives to stimulate appropriate demand. Research is needed to help identify the most appropriate incentives that health financing mechanisms can offer.

4. Provider incentives

A lack of appropriate staff incentives is partly responsible for inefficiency in government health services. This inefficiency takes many forms. In the Gambia, medical staff over prescribed medicines to reduce the chances of misdiagnosis while in the Dominican Republic, government doctors, who received fixed salaries irrespective of performance, were found to work only a small fraction of their contracted hours. Evidence from Bolivia, Puerto Rico, Zaire, Guinea, and Benin shows that when financial or other incentives are introduced in government systems, staff behave more efficiently.

New incentives to government health staff must be carefully designed to achieve an appropriate balance between equity and efficiency. Here the danger is that incentives intended to improve efficiency may also result in reduced financial access to service or in lower quality of care.

Despite abundant anecdotal experience that incentives were being used in government health systems, HFS found little documented evidence about their effects. Further, only a few of those sources measured the gains from incentives and their associated costs. Most of the public health staff incentives studied were financial and functioned under a system of user fees.

A major challenge ahead is the progressive introduction of incentives in public systems. These can be of various sorts. For example, introducing changes in the mechanisms for transferring government financial resources to public providers is a promising area and one that should be explored in depth in upcoming research efforts. These mechanisms may shift from the current fixed budget allocations to

allocations that reward the provision of good quality and cost-effective services. Effective decentralization of government health services may be a necessary condition to permit the successful adoption of such mechanisms.

5. Extending social financing

General tax revenues that support the government health system in many countries are one of the main forms of social financing for health care. Other forms of social financing of health care, especially insurance mechanisms, though still rare in the poorest developing countries, are becoming increasingly common in low- and middle-income nations. Some have expanded, or are expanding social insurance. Their strategies are many, ranging from countrywide incorporation, to centralized administration of social security, to decentralized, community-level initiatives incorporating public provision of services and local collection of premiums.

Adverse selection, moral hazard, and cost escalation are problems that have accompanied the development of most insurance initiatives, leading countries and communities to develop, with varying degrees of success, a wide set of corrective measures. Adverse selection has successfully been tackled through compulsory enrollment; moral hazard through copayments; and cost escalation through cost controls and reimbursement mechanisms in some places, and tight supervision and budget limits in others.

To preserve equity in the system, the cost of subscribing to social financing must remain accessible to all. In several countries social financing has been extended through additional government subsidies or cross-subsidies between population groups (e.g., Ecuador, Mexico). In poorer nations, where social security systems do not exist, social financing is being expanded at the community level via individual or household contributions. Limited evidence gathered by HFS suggests that even very poor communities may be able to pay the premiums necessary to cofinance with the government ambulatory and hospital services in public facilities.

Which health services to insure?

Demand for insurance is driven by risk-averse individuals' desire to protect them-

selves against catastrophic financial losses from treatment of illness or injury. Yet in many poor nations where health insurance is being developed—particularly in Africa—it is still provided primarily for ambulatory care, and only rarely for the more expensive hospital care. Failure to adopt hospital insurance systems is due to their greater complexity, peoples' reluctance to purchase a more expensive premium, and the existence of free though often deficient care in government hospitals.

Ideally, if health insurance systems are to be developed, they should be comprehensive including ambulatory and inpatient benefits as well curative and preventive care. Comprehensive health insurance systems promise greater efficiency by managing the interaction between lower and higher levels of the delivery system and between preventive and curative services. Promoting such systems constitutes a major challenge to developing-country governments and communities. Therefore, future HFS-like projects should be prepared to provide support in insurance systems not only because of the technical complexities involved but also because of the prospects for restructuring the operation and financing of government health systems.

6. Public-private differences in efficiency and private sector development

Expanding the private sector's role in health care financing and delivery in developing countries is likely to continue as a main issue throughout the 1990s. Among the several important policy questions involving the private sector's role are: Would private providers want to deliver services on behalf of government, and would private delivery work to the mutual advantage of both? Would a stronger, privately financed private sector be desirable?

Public funding of private services is common in industrial countries and is becoming more common in developing countries. In most lower income nations studied by HFS, however, government reliance on private services remains the exception. Such a practice would be advantageous to government and society at large 1) if government could purchase private services of a given quality for less than it could produce

them itself; or 2) if government could find mechanisms to pay for private services that are no more costly than the cost advantage of the private sector.

HFS found very little research on the first question. Comparing provider efficiency is technically difficult and expensive. In Senegal, HFS concluded that at high output volumes Catholic health posts were more efficient (had lower unit costs) than government health posts. This finding offered the prospect that the government could benefit from contracting out with Catholic posts for curative and preventive ambulatory services. However, HFS did not explore which mechanisms could be used to make such a contract possible, or how much alternative mechanisms would cost. Research is needed to continue to explore the relative efficiency of public and private providers as well as the mechanisms that may make private provision of government-funded care possible and desirable.

HFS research suggests that an active private sector in health care financing and delivery can help improve health system performance. The private sector expands the choices to consumers; diversifies the supply of services thus reducing the risks associated with a market that has a single source of care; injects further resources into the health sector; provides services where coverage by government services may be inadequate; and removes from the government the burden of providing services to all.

HFS found that governments could expand their collaboration with non-profit providers, particularly in rural areas. Most for-profit providers are in urban areas where collaboration could be explored in pilot experiments. The diversity of types of private providers requires a diversification of policies and regulations based on which type the government wants to further its health goals. The expansion of health insurance or social insurance, and possibly the institution of cost recovery in public hospitals, is likely to be a key to expanding the private sector's role in health care in Africa. Much more country-specific research is required to design policies and mechanisms (subsidies, taxes, credits) that expand affordable private sector preventive and curative services to relieve the government burden and increase access to care.

Impact of HFS Applied Research

Applied research (and technical assistance) activities in health financing are presumed to have long-term effects on the performance of health systems and thus on the health of the populations. Over the short term it is difficult, if not impossible, to unambiguously identify any such changes. But some short-term impacts of a research project like the HFS applied research component can be identified. Indeed, through applied research HFS was able to:

- ▲ advance knowledge about the main policy issues it examined
- ▲ influence health financing policies and practices
- ▲ apply successfully various research methodologies for identifying problems and developing and evaluating solutions.

The findings presented in the preceding sections of this Summary highlight the project's contribution to policy knowledge through applied research. The impact of research on policies and practices, and on research methodologies, is summarized below.

Impact of applied research on health financing policies and practices

Through applied research activities HFS succeeded in promoting:

- ▲ greater awareness and consensus among policy makers about the main policy issues and options surrounding health financing
- ▲ improved understanding of key, yet often ignored or misunderstood, health financing concepts
- ▲ the build-up of technical skills among local officials and technicians through on-the-job training
- ▲ greater acceptance among local counterparts of the use of economics and management techniques to formulate and evaluate policy in the health sector
- ▲ coordination of external assistance to pursue specific policy reform objectives
- ▲ exchange of research methods and findings, and the dissemination of research information

- ▲ continued dialogue with government officials, leading in some cases to significant national policy reform.

Methodological contributions

HFS made three types of methodological contributions. First, it developed in-depth reviews of the literature and experiences on the project's main research topics. Second, HFS proposed methods for addressing weaknesses or gaps in

the existing literature. These are expected to serve as a main methodological reference for future applied research. Third, the volume, diversity, and quality of HFS applied research constitutes an important contribution to the literature. Indeed, HFS provided additional empirical results on important but under-researched policy questions; and it tested and fine-tuned various research techniques.

C H A P T E R 1

Health Care Financing in the Developing World: Policy Issues, Opportunities, and Constraints

Over the past four decades, the developing world has experienced major improvements in health status, although the gains have been uneven across countries and regions. In sub-Saharan Africa, the death rate for children under five years of age dropped from 256 per thousand in 1950 to 175 per thousand in 1990, a decline of almost 40 percent. Over the same period, the child mortality rates declined by 59 percent in India, 70 percent in Latin America and the Caribbean, and 86 percent in China.

The gaps in health status between poor and rich nations, and among population groups within nations, remain wide. The room for improvement is significant. In 1990, life expectancy at birth in Guinea-Bissau was 39 years, half the life expectancy in Sweden and Switzerland.

The cost in terms of disability and human lives lost due to otherwise preventable and treatable health problems is enormous. In 1990, communicable diseases and maternal and perinatal causes accounted for 84.3 percent of the burden of disease, measured in DALYs (disability-adjusted life years), among children under 5 years of age in sub-Saharan Africa (World Bank 1993).

Improving health in developing nations is a difficult but urgent task. Good health is widely recognized as essential to social well-being and economic development. Yet health status remains low because insufficient resources are being devoted to health and the available resources are not always used appropriately.

Research and experience suggest that additional gains in health status could be achieved just by using currently available resources more efficiently and equitably. Over the past 40 years China, for example, though devoting fewer per capita resources to health care, has increased life expectancy at birth from 38 to 69 years. This is a much bigger gain than achieved in sub-Saharan Africa, where the same health indicator increased from 39 to 52 years.

Health is affected by a multitude of factors besides health care. Improving health therefore depends not only on the performance of health systems but also on improvements in education, nutrition, income, hygiene, and other health inputs outside the boundaries of the health sector such as water and sanitation.

Within the health sector, there are many opportunities for improving performance across a broad spectrum of important disciplines, including the medical sciences, public health, economics and finance, medical anthropology, management, and communications. In accordance with the HFS project mandate, however, health care financing is the area singled out for special attention in this report.

The health financing debate

How to finance and deliver health care services are at the center of the policy debate in both developing and industrial countries. A set of well-documented factors motivates the ongoing discussion. They include constrained

economic resources, ambitious health goals, sustained population growth, persistent and emerging health threats, and shifting epidemiological profiles.

Circumstances vary from nation to nation, but everywhere three basic concerns underlie the discussion: equity, efficiency, and sustainability of health care systems. There is a general consensus on the ends of policy—to improve system performance along those three dimensions. However, considerable disagreement persists about the means—how best to organize and pay for health care services. Productive policy debate, based on facts rather than myths, has too often been derailed by ideological diatribe.

A growing body of research has begun to shed light on important policy questions, filling knowledge gaps and helping to dispel prejudices and misconceptions. Slowly, technical considerations are beginning to displace ideology, and consensus is building on some important issues. Evidence on several key questions, however, remains mixed, and further policy research is still necessary. Important, still-disputed questions concern cost recovery, equity, and revenue generation; relative efficiency of public and private providers; and health insurance for the poor.

User fees and the poor

Cost recovery has been introduced in public health services as developing-country governments have tried to alleviate budget constraints. User fees have become the most common form of cost recovery. Less common, though used in some places, are health insurance (other than social security), prepayment, and earmarked health taxes.

Many countries have had user fees for years. In sub-Saharan Africa, in particular, cost recovery has become formal and widespread through the Bamako Initiative, the WHO/UNICEF-promoted policy that relies on user fees to pay for pharmaceutical supplies in public ambulatory facilities.

A major objection to user fees concerns their potential negative effect on equity, financial accessibility to services by the poor. An opposing and main argument in favor of user fees is that the revenue from them can help to improve the equity of the health system when spent to improve the quality of care. The argument goes: when government care is poor, all consumers, including the

poor, must either purchase expensive private health services or forgo proper care. By paying relatively modest user fees, all consumers, including the poor, can obtain services of acceptable quality.

User fees are also promoted for their supposed ability to improve efficiency. User fee revenue, it is argued, can be used to improve the quality of care and thus the effectiveness of services. Better quality, in turn, boosts demand for services in public facilities, thus enhancing the economic efficiency of public health expenditure, reducing search costs among users, and avoiding higher patient expenditures on more expensive private care. User fees are also liked for their presumed ability to reduce spurious demand, which also improves system efficiency (World Bank 1987).

Finally, user fees have become popular because they are viewed as the only mechanism currently available to many countries to improve the financial sustainability of government health systems.

Revenue generation through cost recovery

Skepticism has been widespread about the significance of cost recovery revenue relative to health facility recurrent expenditure. A review of experience from the late 1980s states that "...community financing of the operating costs of health services has, in all documented cases, been a minority contribution." (Creese 1990).

As with other issues, the evidence on this question is mixed. A recent review of cost recovery in public health services in sub-Saharan Africa documents a broad range of cost recovery performance, from a low of 0.5 percent of health center recurrent costs in Guinea-Bissau to a high of 100 percent of non-salary recurrent costs in Guinea (Nolan and Turbat 1993).

Relative efficiency of public and private providers

The inefficiency of government health systems has been well documented and is widely acknowledged as a central constraint to improved sectoral performance. Underfunding of recurrent costs, over-centralization, and logistical problems are cited as main causes of inefficiency in government-supplied health services (World Bank 1987).

Disbelief about the feasibility of improving public sector performance has led to proposals for outright privatization of government services. This policy recommendation, though popular in some circles, is based on weak empirical foundation. Only a handful of studies have been conducted about the relative efficiency of public and private providers, and they have been plagued by serious methodological and data problems that limit the robustness of their findings (Barnum and Kutzin 1993; Bitran 1992). Even if the private sector were found to be more efficient, the success of policies that relied on private provision would depend critically on the performance of financing and administrative mechanisms for channeling money from the government to the providers.

In sum, the efficiency implications of private-provided, public-financed services remain questionable. So, too, does the willingness and ability of private providers to deliver health services on behalf of government.

Health insurance for the poor

Self-financed health insurance has long been thought unfeasible for low-income populations. High administrative costs and requirements, inability to pay premiums, and unwillingness to enroll are the main reasons cited. Recent evidence from several developing countries has begun to displace this view (Shepard et al. 1990; La Forgia and Griffin 1993).

Policy evolution

Despite conflicting evidence and a natural inertia to change, policies and political viewpoints have shifted considerably over the past decade. A recent review (WHO 1993) documents changes in health financing. Ten years ago, the notion of charging user fees for health care was unacceptable to many. Today, while some controversy remains, cost recovery and user fees are official or de facto policies throughout much of sub-Saharan Africa, Asia, and in parts of Latin America and the Caribbean. Fees are being adopted even in the

former Soviet Union and in China.

Likewise, the application of economic concepts and theories to health system analysis was at first unacceptable to traditional health system analysts and planners. Yet today, few question the applicability and usefulness of cost and demand analysis, simulation models, and the use of efficiency criteria to assess health system performance.

If cost recovery was the major focus of several international development agencies and governments in the 1980s, in the 1990s attention is shifting to other questions. The private sector's actual and potential role in health financing and delivery remains unexplored and is quickly becoming a focal point of concern. Like cost recovery 10 years ago, some public health officials greet the prospect of an enlarged role for the private sector with suspicion and fear.

Besides the role of the private sector, other questions will likely become the focus of the policy debate in the 1990s. They include: effective decentralization of government health services; autonomy of public hospitals; reallocation of government resources toward more cost-effective health activities (World Bank 1993); and development of community-based health insurance and social financing programs for low-income populations.

Purpose and organization of this report

This document presents results from HFS applied research in health care financing in over 40 countries around the developing world. Chapter 2 describes the program's conceptual framework and agenda and presents an overview of HFS Project research activities. Chapter 3 presents research results. Chapter 4 provides a summary of findings and recommendations for policy and for further research.

C H A P T E R 2

Applied Research Agenda and Activities

The HFS project was conceived to help developing countries formulate and evaluate health care financing policy. Early on, HFS set out to devise an applied research agenda whose aim was to identify important policy issues for which there was a vacuum in knowledge.

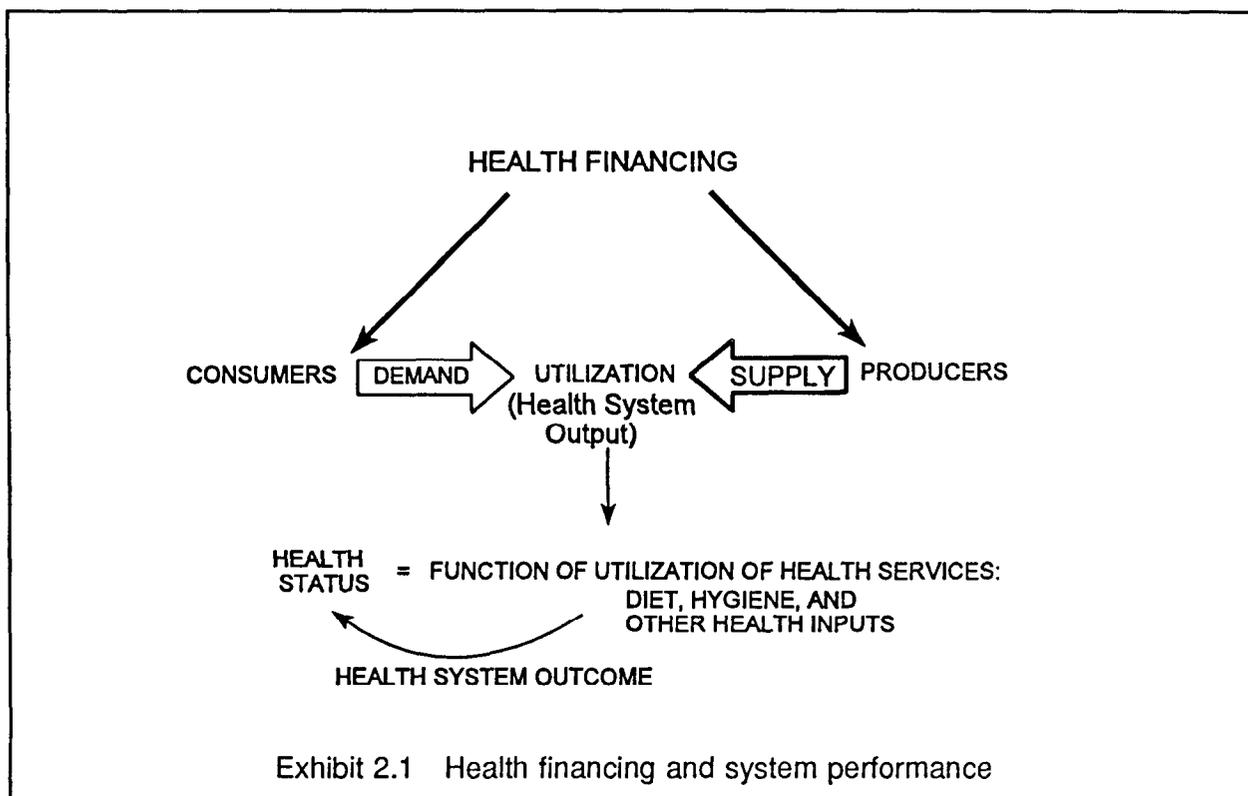
The agenda-formulation process began with the realization that, by giving providers and consumers specific incentives, financing affects health service supply and demand, and therefore the performance of the health care system. On the supply side, which services get produced, how much it costs to produce them, and how they are offered to the population, all depend in part on the way services are financed. For example, a system where providers receive a fixed budget, irrespective of the quantity and quality of services offered, will supply very different services from one where providers draw all their revenue from the sale of services to users.

On the demand side, by determining the out-of-pocket cost of services to consumers, health financing practice affects the types and quantities of services that people are able and willing to obtain. For instance, demand for private hospital services will differ significantly for people who have generous insurance coverage and those who lack health insurance and must pay out of pocket.

Both supply and demand are also affected by factors besides health care financing. Those factors are also of concern to policy and have received attention in the HFS applied research agenda. Examples of non-financing factors that affect supply are pharmaceutical sector policy, availability and characteristics of medical manpower, and technical supervision of medical providers. Factors affecting demand other than health financing include perceptions of health care quality, education, self-perception of need, income, and access costs.

The effects of health financing on supply and demand are shown conceptually in *Exhibit 2.1*. The exhibit shows how payment mechanisms (by government, individuals, firms, and third parties) influence providers (public and private hospitals, clinics, and individual practices) and consumers (individuals, households, and communities) to determine health system output and health outcomes.

Based on this simple framework, HFS staff formulated questions about the supply and demand implications of health care financing and their effect on system output and outcome. From this exercise, and from information about the state of knowledge on these and other policy issues, HFS formulated an applied research agenda (HFS 1991).



HFS applied research topics

The main research questions asked fall under USAID's four main areas of inquiry:

- ▲ cost recovery
- ▲ productive efficiency
- ▲ social financing
- ▲ private sector

In *Exhibit 2.2* research questions for each topic are covered. In the remainder of this chapter, four topics are addressed: HFS applied research topics; applied research mandate and management; applied research activities; and other research conducted under technical assistance.

Feasibility of financing quality improvements through cost recovery

Cost recovery policy seeks to ease government budget constraints by generating additional resources for the public health system. Generally, the new resources raised are supposed to be used

to improve the quality of services, with the hope that improved care will generate additional demand and enhance consumers' willingness to pay. As noted, however, skepticism persists about whether enough resources can be generated to allow significant improvements in quality. HFS research explored these questions.

Identification of individuals with limited ability to pay and exemptions

A major objection to cost recovery for health services concerns the adverse effect that fees may have on financial equity and therefore on accessibility to services. To tackle this question HFS sought to explore:

- ▲ the equity implications of user fees and of other forms of cost recovery
- ▲ the viability of methods to identify individual ability to pay and to administer a policy of sliding fees and exemptions for those with limited ability to pay.

Exhibit 2.2 Applied research agenda of the HFS Project: Research areas, topics, and questions		
AREA	TOPIC	RESEARCH QUESTIONS
COST RECOVERY	Quality of care	▲ Feasibility of financing quality improvements through cost recovery
	Protecting the poor	▲ Viability of methods to identify persons with limited ability to pay and to exempt them, fully or partially, from fees
	Efficiency in consumption	▲ Factors affecting consumption of cost-effective health services
PRODUCTIVE EFFICIENCY	Public sector reforms	▲ Feasibility of using provider incentives to improve efficiency in production
	Reallocating public spending	▲ Efficiency and equity implications of current government expenditure patterns for health ▲ Determination of more efficient and equitable allocation ▲ Mechanisms for enhancing equity and efficiency of allocations
SOCIAL FINANCING	Expanding social financing's role	▲ Financial and administrative feasibility of providing social insurance to low-income populations
PRIVATE SECTOR	Developing private health care markets	▲ Factors affecting development of private sector provision of health services Policies that may stimulate growth of private sector provision
	Public and private differences in efficiency	▲ How to measure efficiency of health service production? ▲ Are there differences in efficiency between government and private providers? ▲ What factors explain any such differences? ▲ Measures to improve efficiency of government health services and efficiency of public spending in health care
	Public-private interactions	▲ Advantages and feasibility of government-private sector collaboration in financing and delivering health services

Factors affecting the consumption of cost-effective health services

A health system is efficient when it achieves the maximum possible gains in health status given existing resources. Typically, health systems are inefficient, owing to patterns of demand for services and their supply.

Focusing on demand, this research explored how various factors affected demand for health care, specifically:

- ▲ Why do people not demand cost-effective health services?
- ▲ What should be done to promote cost-effective demand?

Feasibility of using provider incentives to improve efficiency in production

In most developing countries government remains the largest single provider of health care services. Increasing efficiency in public services thus can have a major, positive effect on system performance. The lack or the weakness of mechanisms that reward or punish government health staff based on performance has led to recommendations for either the privatization of government systems or the introduction of private-like incentives in public services. This research explored the feasibility and implications of adopting efficiency incentives in public health services.

Efficiency and equity implications of government health spending

Health sector resources in developing countries are often said to be poorly allocated. Allocations may be judged inappropriate on either equity or efficiency grounds. Concerning equity, resources are said to be often allocated among services, levels, and regions in a way that leads to disparities in access among various population groups. Reallocation could increase system equity. With regard to efficiency, there is evidence that the services provided are not the most cost-effective. Resource reallocation toward more cost-effective services can help achieve greater health gains with existing resources.

This research sought to study the efficiency and equity implications of government health spending. An intended output of this research was a set of policy recommendations that would lead to better allocations.

Financial and administrative feasibility of providing social insurance to low-income populations

Only a few cases have been documented of successful health insurance programs for low-income populations in poor countries. High administrative costs, incomplete financial markets, cost escalation, and problems of information (adverse selection and moral hazard) are among causes cited for the lack of health insurance. The aim of this research was to study health insurance experiences, explore factors affecting their prospects for success, and draw lessons for policy.

Factors affecting the development of private provision of health services

Over the past decade, donors and international agencies have been encouraging private participation in providing health care in the developing countries that do not already have an active private sector. If efficiency and equity advantages were associated with a greater private role, then it would be necessary to find out which policies could stimulate private sector growth. This research sought to document the development of the private sector and examine policies that can stimulate private sector development.

Differences in efficiency between government and private providers

In producing health care services, the private sector operates under a different—possibly more efficient—set of incentives from the public health sector. If it is more efficient than the public sector, an effort should be made to involve private providers more extensively in public health care. Yet little is known about the relative efficiency of private and public providers. The main objectives of this research were to:

- ▲ measure relative efficiency of public and private providers
- ▲ recommend measures for improving system efficiency either by enhancing efficiency in public provision or by identifying mechanisms that would increase the efficiency of public expenditure through publicly-financed private provision

A secondary research objective was to identify and test methods to measure efficiency in health service production.

Advantages and feasibility of government-private financing and delivery

Pooling under-utilized public and private health resources could increase systemic efficiency, it is commonly believed. Allowing part-time use of public buildings and equipment for private practice has frequently been suggested as a way to improve the return on capital invested in public health care. In this research, HFS sought to:

- ▲ identify examples of public-private collaboration
- ▲ document advantages and disadvantages of such arrangements
- ▲ recommend policies to promote beneficial collaboration between public and private health service providers

Applied research mandate and management

The HFS Project was called upon to undertake nine major applied research (MAR) and up to 30 smaller applied research (SAR) projects. The nine MARs were expected to help advance knowledge on key, unexplored policy questions. The project's applied

research component was expected to account for between 25 percent and 30 percent of the project's total resources. The SARs were to support HFS technical assistance and to be a funding and training vehicle for developing-country researchers. In general, MAR activities constituted a resource-intensive effort, typically accounting for a dozen or more person-months, and involving one or more major field data collection efforts. The SARs, on the other hand, were more modest efforts, usually representing between 3 and 6 person-months of work.

HFS was expected to conduct research in as many countries as possible across USAID's five geographic areas and to fall within USAID's four technical areas shown (*Exhibit 2.2*). The project was required to:

- ▲ review relevant research conducted to date on the selected MARs
- ▲ draw lessons on research methodologies
- ▲ synthesize research findings
- ▲ suggest directions for future research

While formulating the agenda, HFS decided to carry out MARs in three phases:

- ▲ Phase 1 consisted of a review of relevant literature and experiences, the design of a conceptual framework, and a research design for field work in one or more countries
- ▲ Phase 2 was the conduct of field work (data collection; experimentation)
- ▲ Phase 3 involved data analysis, report writing, and information dissemination.

Project staff searched for opportunities for MARs during field visits and invited senior researchers with an established reputation to submit proposals for research under each of the nine MAR areas. Likewise, HFS invited developing-country researchers to submit proposals for SARs. HFS staff undertook several of the MARs and a few of the SARs.

A peer review process was adopted. The review board included the members of the HFS Project's Technical Advisory Group (TAG) and other senior researchers and staff from domestic and international agencies and from universities. Two reviewers were selected for each research piece based on expertise and availability.

HFS disseminated its research work as broadly as possible in the form of project documents, published journal articles, and

through conferences, workshops, and seminar presentations.

Applied research activities

Major applied research

HFS wrote comprehensive reviews of published and unpublished experiences on all but one MAR topic on the research agenda. (See *Exhibit 2.3*; the topic left out, due to lack of funding, was Reallocating public sector spending). The main results from these reviews are discussed in Chapter 3. In addition, HFS conducted Phase 2 field research in six different countries, five of them in sub-Saharan Africa. Two countries—Niger and Senegal—were a fertile ground for MAR work as HFS was involved in long-term technical assistance efforts in both countries. In Niger, HFS helped plan, implement, and evaluate cost recovery demonstration projects (*Exhibit 2.4*). Field research was conducted on expanding the role of social financing, quality of care, and efficiency in consumption. In Senegal, HFS assisted the government in the context of health care reform. Consequently, HFS undertook field-based MARs on the topics of public-private differences in efficiency, quality of care, and private sector development. Another study on factors affecting private sector development was conducted in Tanzania which has a long history of government collaboration with private voluntary or non-profit providers. In collaboration with the Vector Biology Control Project and the Centers for Disease Control, HFS conducted a study on the short-term economic impact of Malaria in Africa with field research in Nigeria and Kenya.

Smaller applied research

The set of SARs was diverse thematically and geographically and (*Exhibit 2.5*). Several research pieces focused on health insurance growth. In Kenya HFS supported an assessment, through interviews of employers, insurers, and providers, of the prospects for growth of public and private health insurance. Four avenues of growth were identified and specific policy measures were recommended to achieve that goal.

The project also financed a review of health insurance experiences in 15 developing countries. The research product was a compendium of case studies that allowed lessons

to be drawn from factors that helped and hindered the success of health insurance for middle- and low-income populations.

In China, HFS awarded an SAR grant to study the demand for episodes of care under the China Health Insurance Experiment. HFS supported several research activities on the question of quality of care and cost recovery for quality improvements. Recommendations from this research were aimed at guiding policies seeking to pay for improvements in quality of government services. In both the Central African Republic and Belize, HFS supported research on willingness to pay for better quality improvements through household surveys and contingent valuation methods. In the Cebu Province of the Philippines, the project co-financed an econometric study of demand for obstetric services that focused on health care quality. Finally, in the Congo HFS undertook a comparative study of health care quality and prices for a sample of government and private providers.

The remainder of the SAR portfolio consisted of projects spread over a variety of subjects, including: a proposal for a reformed model of health

care financing and provision for middle- and low-income populations in Chile; a study of patient expenditures and demand for health care from Imbaba Hospital in Cairo, Egypt; community financing of schistosomiasis control in northern Cameroon; and an analysis of the effects of aging on future costs of inpatient services in Uruguay.

Other research under technical assistance

Technical assistance work required vast amounts of analytical support everywhere. Consequently, a large number of applied research projects was undertaken wherever HFS was assisting governmental or non-governmental institutions. In the Central Africa Republic, HFS conducted several studies to assess the desirability and feasibility of adopting cost recovery for non-hospital health services in government facilities. Likewise, in Burkina Faso HFS conducted studies of costs, provider competition, and demand and, using a previously developed computer model, generated options for cost recovery in public ambulatory facilities and simulated their implications on system performance.

Exhibit 2.3 Summary of major applied research activities				
AREA	TOPIC	PHASE 1 PRODUCT	PHASE 2 FIELD RESEARCH COUNTRIES	PHASE 3 PRODUCTS
COST RECOVERY	Quality of Care	<i>Quality of Health Care and Its Role in Cost Recovery</i> , by A. Wouters, O. Adeyi, and R. Morrow	Niger Senegal	<i>Cost Recovery and Improved Drug Availability in Niger-Implications for Total Patient Treatment Cost</i> , by A. Wouters and A. Kouzis <i>Quality of Health Care Financing in Africa: A Review and Discussion of Findings in Niger and Senegal</i> , by A. Wouters
	Protecting the Poor	<i>Means Testing in Cost Recovery of Health Services in Developing Countries</i> , by C. Willis	See also Smaller Applied Research Exhibit 2.5	
	Efficiency in Consumption	<i>Efficiency in the Consumption of Health Services: Concepts and Research Needs</i> , by R. Barlow with C. Kolars, C. Peters, and B. Vissandjé	See also Smaller Applied Research Exhibit 2.5	
PRODUCTIVE EFFICIENCY	Public Sector Reforms	<i>Provider Incentives and Productive Efficiency in Government Health Services</i> , by R. Bitran and S. Block	—	—
SOCIAL FINANCING	Expanding its Role	<i>Extending Coverage and Benefits of Social Financing Systems in Developing Countries</i> , by G. La Forgia, C. Griffin and R. Bovbjerg	Niger	<i>Social Financing and Fee-for-Service Cost Recovery in Niger</i> , by A. Yazbeck and M. Wenner
			See also Smaller Applied Research Exhibit 2.5	
PRIVATE SECTOR	Development of Private Health Care Markets	<i>Factors Affecting the Development of Private Health Care Provision in Developing Countries</i> , by P. Berman and R. Rannan-Eliya	Tanzania Senegal	<i>Private Sector Delivery of Health Care in Tanzania</i> , by G. Munishi with others <i>The Private Sector Delivery of Health Care: Senegal</i> , by J. Knowles, A. Yazbeck, and S. Brewster
	Public-Private Differences in Efficiency	<i>Technical and Economical Efficiency in the Production of Health Services</i> , by R. Bitran	Senegal	<i>Costs, Financing, and Efficiency of Government Health Facilities in Senegal</i> , by R. Bitran, S. Brewster, and B. Ba <i>Costs, Financing, and Efficiency of Health Providers in Senegal. A Comparative Analysis of Public and Private Providers</i> , by R. Bitran, S. Brewster, and B. Ba
	Public-Private Interactions	<i>Public and Private Interactions in the Health Sector in Developing Countries</i> , by R. Ellis and M. Chawla	See also Smaller Applied Research Exhibit 2.5	
ECONOMIC IMPACT OF MALARIA		<i>Economic Impact of Malaria in Kenya and Nigeria</i> , by C. Leighton and others	Kenya Nigeria	<i>Economic Impact of Malaria in Kenya and Nigeria</i> , by C. Leighton and others

Exhibit 2.4 Cost recovery pilot test in Niger

Motivated by government resource constraints, discussions about cost recovery started in Niger in the mid-1980s. The adoption of cost recovery in non-hospital government facilities was entered as a conditionality in the Niger Health Sector Support Grant (NHSS)—USAID's first non-project assistance activity in health in the developing world. In 1989 a national policy workshop took place in the town of Kollo with broad participation by government officials and international agency representatives. The government acknowledged the need to adopt cost recovery but was wary about the equity implications of user fees. Unprepared to choose among a set of methods, it decided to carry out a one-year test of two cost recovery methods. A compulsory earmarked health tax accompanied by a small copayment was the first method chosen; a flat fee per acute episode of illness was second. A steering committee, with government and development agency staff, was formed to oversee the conduct of the tests. A special office was created within the ministry of health (MOH) to plan and carry out the tests. Technical assistance to the government was initially provided by a team from Tulane University and Abt Associates, under NHSS, and subsequently by the HFS Project.

In April 1992, after the Gulf War and several delays—involving a number of national strikes, a high turnover of health ministers, and a change of government from a military rule to a national assembly—the pilot tests started in the districts of Boboye, with the earmarked health tax and the copayment, and Say, with a flat fee per acute episode of illness. A third neighboring district, Illéla, was retained as a control site. The mandatory annual tax of Boboye, 200 FCFA (\$0.78) per tax-paying adult in the household, was to be complemented by a flat copayment of 25 FCFA (\$0.10) per acute episode of illness by users of government facilities aged five years or younger and 50 FCFA (\$0.20) for all other users. In Say the episode fee was 100 FCFA (\$0.39) for children under five years-old and 200 FCFA (\$0.78) for people aged six years and older.

The pilot tests consisted of a package of interventions, not just a change in health financing; information systems were designed to manage cost recovery revenue and medicines; facility managers were hired and trained in the use of the new systems; medical staff were trained in standard diagnostic and treatment protocols by the Belgian project RESSFOP; and start-up inventories of medicines were donated to test facilities by the World Bank. None of the above interventions were adopted in the control district of Illéla, where government health services remained free of charge.

A monitoring and evaluation program was developed by HFS and the pilot tests office. Two probabilistic household surveys, covering about 600 households and representing between 3,900 and 5,500 individuals per district, were carried out before the introduction of the tests, and one year after, to assess any changes in demand and utilization. In addition, monthly facility surveys were carried out for 12 months, beginning with the introduction of the reform, to study cost recovery revenue, drug inventories, and utilization of services.

Evaluation results showed a 40 percent increase in utilization, measured by new episodes of illness, in the tax district of Boboye. In Say, the fee district, new episodes fell by 6 percent while in the control district of Illéla they dropped by 8 percent. When measured as the number of visits (first and repeat), however, utilization increased by about 75 percent in Boboye, by 18 percent in Say, and by 5 percent in the control site of Illéla. These increases took place across all income groups but were greater among higher income households. In the tax district, cost recovery covered 90 percent of all incremental costs—medicines and management—associated with the reform and exceeded the additional cost of drugs by 50 percent. In the fee district, cost recovery paid for one-half the cost of drugs or about 35 percent of all incremental costs. Whereas total cost recovery revenue was similar between the two test districts, costs differed significantly and accounted for the difference in cost recovery performance. In the tax district, where the staff had more experience in diagnostic and treatment practices, the average cost of a prescription was 100 FCFA (\$0.56) per patient, or less than one-half the cost of 270 FCFA (\$1.06) in Say. Respondents to the follow-up household surveys in all three districts expressed a strong preference for the tax system and an equally strong willingness to pay higher taxes and fees the following year.

An interim policy workshop was held in early 1994 and a final one was scheduled for June 1994. One week prior to the final workshop, the President of Niger visited the test site of Say and announced the national adoption of cost recovery. The final workshop received broad press coverage and had among its participants five government ministers. The countrywide implementation of the reform was officially announced at the final event and an implementation plan was drawn. In accordance with the government's decentralization policy, it was agreed that the decision about which cost recovery system to choose would be left to the communities at the district level.

Exhibit 2.5 Selected smaller applied research activities			
AREA	TOPIC	TITLE AND AUTHOR	COUNTRY
COST RECOVERY	Quality of Care	<i>Quality of Health Care in Relation to Cost Recovery in Fiji</i> , E. Attah and K. Plange (TA)	Fiji
		<i>The Role of Quality in the Demand for Health Care</i> , D. Hotchkiss	Philippines
		<i>Cost Recovery and Quality of Care in the Congo</i> , B. Tsongo, C. Willis, D. Deal and H. Wong	Congo
		<i>Estimating the Willingness to Pay for Quality of Care</i> , M. Weaver, R. Kornfield and M. Chapko (TA)	the Central African Republic
	Protecting the Poor	<i>Protecting the Poor and Other Target Groups under Cost Recovery, with Evidence from Niger</i> , C. Willis and C. Leighton	Niger
		<i>Protecting the Poor in Africa: Impact of Means Testing on Equity in the Health Sector in Burkina Faso, Niger and Senegal</i> , F. Diop and C. Leighton	Burkina Faso Niger Senegal
	Efficiency in Consumption	<i>Promoting Access to Cost-Effective Health Services through Changes in Demand: Evidence from Niger and Burkina Faso</i> , R. Barlow and F. Diop	Niger Burkina Faso
Policy Development	<i>Synthesis of Health Financing Studies</i> , R. Barlow, F. Diop and N. Touré (TA)	Senegal	
	<i>Study of Medical Treatment Financing</i> , N. Mezey	Mali	
	<i>A Health Subsidies Allocation Model</i> , J. Claro, G. Bitran and B. Luque	Chile	
	<i>Study of Availability and Price of Drugs in Algeria</i> , A. Touat	Algeria	
	<i>Health Finance Policy Simulation Model</i> , L. Forgy and J. Knowles	Indonesia	
	<i>Local Retention of User Fees in Government Health Facilities</i> , K. McInnes	Various	
	<i>Assessment of Health Systems, Financing and Policy Options in Arequipa Region, Peru</i> , J. Coburn (TA)	Peru	
Demand for Health Care	<i>Review of Cost Recovery Experience in the Central African Republic</i> , C. Leighton, G. Becker, Y. Derriennic and E. Laurin (TA)	the Central African Republic	
	<i>Health Financing in Fiji: The Role of and Potential for Cost Recovery</i> , H. Wong and S. Govind (TA)	Fiji	
	<i>Impact of Structural Adjustment on the Demand for Child Health Care</i> , L. Brenzel	Ghana	
	<i>Estimating the Willingness to Pay for Quality of Care</i> , M. Weaver, R. Kornfield and M. Chapko	the Central African Republic	
	<i>Schistosomiasis Control Strategies in Northern Cameroon</i> , M. Khan	Cameroon	
	<i>Rapid Household Survey on Health Care Utilization and Expenditures</i> , M. Makinen and others (TA)	Peru	
<i>Note: (TA) denotes applied research conducted to support technical assistance</i>			
<i>(continued on next page)</i>			

Exhibit 2.5 Selected smaller applied research activities			
AREA	TOPIC	TITLE AND AUTHOR	COUNTRY
COST RECOVERY	Demand for Health Care	<i>Utilization and Demand for Health Services in Senegal</i> , A. Sadio and F. Diop (TA)	Senegal
		<i>Expenditure Patterns and Willingness to Pay for Health Services in Belize</i> , J. North, C. Griffin and D. Guilkey (TA)	Belize
		<i>Analysis of the Demand for Inpatient and Outpatient Care from Imbaba Hospital, Cairo</i> , R. Ellis and E. Stephenson (TA)	Egypt
		<i>Demand Side Impacts of an Experiment in Health Care Cost Recovery in Niger</i> , R. Ellis and M. Chawla (TA)	Niger
		<i>Willingness to Pay for Health Services in Three Provinces of Burkina Faso</i> , B. Sow (TA)	Burkina Faso
		<i>The Demand for Curative Health Care in Rural Ecuador</i> , J. Knowles (TA)	Ecuador
SOCIAL FINANCING	Expanding its Role	<i>Financing Health Services through Insurance: A Case Study from Kenya</i> , G. Mwabu, J. Wang'ombe and others	Kenya
		<i>Health Insurance in Practice: Fifteen Case Studies from Developing Countries</i> , G. LaForgia and C. Griffin	Worldwide
		<i>Demand for Episodes of Care in the China Health Insurance Experiment</i> , J. Sine	China
		<i>Expansion of Private Health Insurance in Papua New Guinea</i> , Z. Ashir (TA)	Papua New Guinea
		<i>Health Services for Low-Income Families: Extending Coverage through Pre-Payment Plans in the Dominican Republic</i> , R. LaForgia (TA)	Dominican Republic
		<i>Health Insurance in Fiji</i> , D. McFarland (TA)	Fiji
		<i>Organizing and Financing Rural Health Services in Pakistan (Volume V)</i> , R. Yoder, S. Lalani and M. Makinen (TA)	Pakistan
<i>An Assessment of Rural Health Facilities and Services: Seguro Social Campesino (SSC)</i> , D. DeRoeck, J. Knowles, T. Wittenberg, P. Cordova and L. Raney (TA)	Ecuador		
PRIVATE SECTOR	Public-Private Interactions	<i>Multiple Job Holdings by Government Health Personnel in Developing Countries</i> , M. Chawla	India
HEALTH CARE COSTING	Disease-specific	<i>The Effects of Population Aging on Health Care Utilization and Costs for the Centro de Asistencia del Sindicato Médico del Uruguay</i> , M. Micklin, H. Wong and S. Heinig	Uruguay
	Services and Facilities	<i>Unit Costs and Financial Analysis for the Hospital 12 de Abril in Bolivia</i> , M. Olave and Z. Montano	Bolivia
		<i>Kenya Ministry of Health Preventive and Primary Health Care Resource Gap Study</i> , L. Forgy, M. Manundu and others (TA)	Kenya
		<i>Operating Costs and Marketing Analysis for the Bon Repos Hospital in Haiti</i> , B. Barker, L. Emrich, R. Bitran, S. Fernandez and F. Pean (TA)	Haiti
		<i>Tools for Break-Even Analysis and Financial Control at Mirebalais Hospital, Haiti</i> , K. Frederiksen and S. Fernandez (TA)	Haiti
<i>Note: (TA) denotes research activities conducted in support of Technical Assistance.</i>			

C H A P T E R 3

Findings

This chapter presents main findings from HFS applied research. The information provided draws on all HFS research—major, smaller, and research under technical assistance. Results are organized under the nine major applied research (MAR) topics described in Chapter 2. A summary and recommendations for policy and research are presented in Chapter 4.

Quality of care and its role in cost recovery

Quality of care encompasses effectiveness of services and their appeal to patients (*Exhibit 3.1*). It is inseparable from system efficiency.

Why quality matters

Both theory and empirical evidence show that improving quality in developing-country government services is a prerequisite for enhancing the efficiency of government and patient health expenditure. Quality and

efficiency are interconnected in several important ways. First, the quality of services influences their effectiveness: the disability and deaths averted per dollar spent on health rises or falls as quality improves or worsens. Second, consumers are deflected by services of poor quality. Low demand implies under-utilization of services and therefore a waste of resources. For example, medical labor is wasted by under-utilization in health facilities where a lack of pharmaceutical products results in low demand. Third, low quality in government services leads consumers to seek care from multiple sources, which inflates treatment costs. For example, a patient may first visit a government health center for a medical consultation and then go to a private pharmacy to fill the doctor's prescription. Better quality in public facilities allows one-stop care, saving additional costs of time, travel, and further payments. Fourth, wasting available resources—by, for

Exhibit 3.1 Quality levels and measurements

In their Phase I HFS paper, Wouters, Adeyi, and Morrow (1993) formulated a conceptual framework for analyzing *quality of care*. They suggested that quality deals with both the *effectiveness* of the services—their ability to help improve health status—and the *appeal of services* to patients. The authors cited Donabedian (1980) who, in accordance with that framework, proposed three levels for measuring quality of care: structure, process, and outcome, as shown in the table.

Quality level	Measurements involved in the assessment of quality
Structure	Availability and condition of medical resources like labor, pharmaceutical products, equipment, and infrastructure
Process	Comparison of what should be done with a given health technology and what is actually done in terms of provider competence and user compliance
Outcome	Study of whether health services affect health status and assessment of patient satisfaction with health care

example, prescribing multiple, unnecessary, and sometimes harmful drugs—also lowers efficiency.

Quality of care in government health services

Government services everywhere had major quality problems, the HFS Project found after quality reviews in several countries. Health care inputs, including medical labor and pharmaceutical products, were lacking or were inappropriate; staff and patient compliance with treatment were poor; and patient and health staff satisfaction with services were low. Although health outcomes were not measured, deficiencies in structure and process likely meant that the public health systems studied were ineffective and inefficient.

Quality measurement through focus groups in Fiji

In Fiji HFS undertook a study of quality using focus groups (Attah and Plange 1993). Researchers elicited perceptions and opinions about needed quality improvements and sought to explain: the under-utilization of rural government ambulatory facilities; the high demand for expensive private care; and the bypassing of lower level public facilities and heavy use of the outpatient unit of Colonial War Memorial Hospital, an urban facility. Respondents indicated that quality shortcomings in public facilities were pervasive, including long waits, absence of physicians, lack of drugs, unpleasant reception, hurried treatment, unresponsiveness to patients' concerns, and dirty facilities.

Assessment of quality through a household survey in Belize

In Belize, HFS contributed to the design and analysis of the Belize Family Health Survey, an inquiry that drew a nationally representative sample of households to assess health-seeking behavior (North, Griffin, and Guilkey 1993). The study showed that whereas government health services were provided virtually free of charge (an average of \$1 per visit), medicines were

seldom available. As a result, most patients bought drugs in private pharmacies, incurring further treatment costs. Project researchers demonstrated how a modest increase in government service fees would both pay the cost of missing pharmaceutical products and reduce total patient treatment costs.

Medical staff compliance with treatment norms in Niger and Senegal

HFS examined medical staff compliance with standards of treatment in a sample of public facilities in both Niger and Senegal (Diop et al. 1993 and 1994; Bitran, Brewster, and Ba 1994 a,b; and Wouters 1994). Several procedures were observed, including examination and treatment of a sample of patients whose chief complaint was a fever. Departures from behavior norms were large in both countries (**Exhibit 3.2**). Health personnel correctly performed the initial set of procedures (greeting patient, taking vital signs) in only two-thirds of the instances; they correctly examined only one in four patients to determine the cause of the fever; and they explained the exams, conclusions, and treatment in 20 percent of the cases in Niger and in just above one-third of the cases in Senegal. A policy workshop was held in Senegal to present information on quality of care and to search for causes and solutions.

Availability of pharmaceuticals in public and private facilities and implications for quality and demand

In Senegal and the Congo, when drugs were needed for treatment, private providers could more frequently supply the necessary medicines than public providers (**Exhibit 3.3**). Public patients then had to incur additional travel, search, and treatment costs to fill prescriptions elsewhere, with the consequent loss in system efficiency.

In the Central African Republic, HFS carried out a household survey to assess health utilization and expenditure patterns, and willingness to pay for quality improvements (Weaver et al. 1993). The study was based on a nationally representative sample of 1,263 households from 79 randomly selected census tracts.

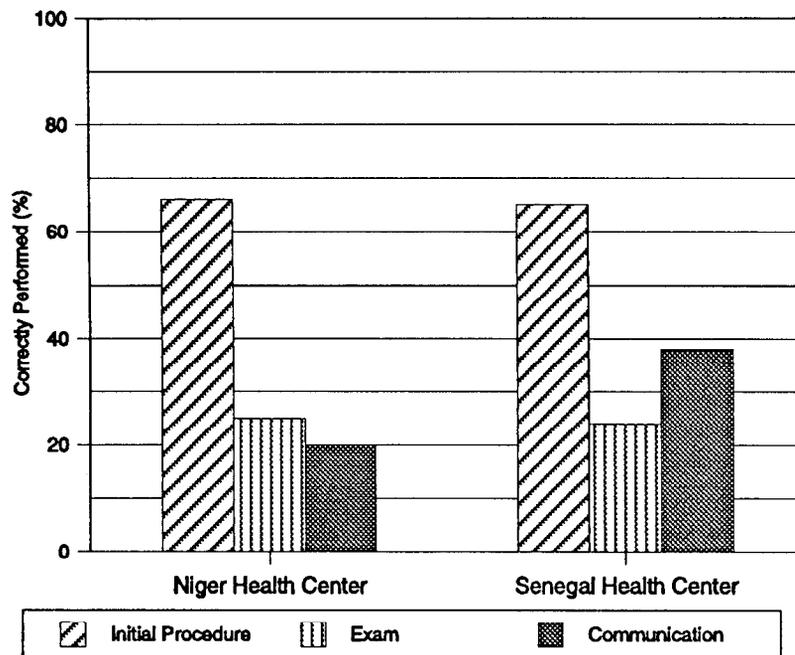


Exhibit 3.2 Medical personnel behavior for fever consultation in Niger and Senegal

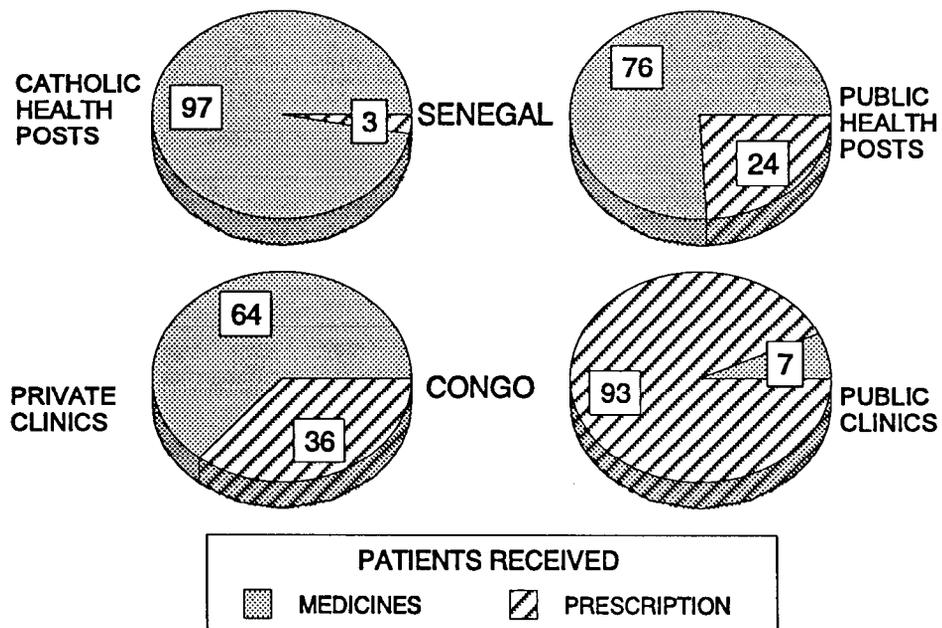


Exhibit 3.3 Drug prescription practices in private and government clinics, Senegal and the Congo

Drug availability in public and private facilities was estimated based on respondent-reported main symptoms, provider choice, and provider's furnishing appropriate medicines. On average, government facilities stocked medicines to treat 1.7 of 5 main illness groups. In contrast, private providers stocked drugs to treat 4.2 of 5 illness groups.

An HFS study of obstetric services in Cebu Province, the Philippines, focused on quality factors affecting demand (Hotchkiss 1993). Quality characteristics were assessed through a survey of health care providers. Demand was studied econometrically with household data from the Cebu Longitudinal Health and Nutrition Study, a random sample of urban and rural neighborhoods of Cebu that consisted of 3,327 women. The study found that such individual characteristics as drug availability, facility crowding, and practitioner training interacted with quality to determine demand.

Relative quality and cost recovery performance among public and private providers in the Congo

The question of relative quality of public and private providers has been raised repeatedly by health system analysts and policy makers over the past decade. If quality among private providers were higher than public quality at comparable costs, government could enhance the efficiency of public expenditures either by partially relying on private provision or by emulating private mechanisms leading to higher quality.

To address this question, HFS did comparative studies of quality of care and efficiency among public and private providers in the Congo (Tsongo et al. 1993). Project researchers interviewed a total random sample of 400 private and public ambulatory patients, upon exit from the facility, in both urban and rural areas. Overall, private sector patients were significantly more satisfied with the services received than public patients. (*Exhibit 3.4*)

Exhibit 3.4 Cost recovery and quality of care in the Congo				
	PRIVATE PROVIDERS		PUBLIC PROVIDERS	
	Urban	Rural	Urban	Rural
Patient survey sample	100	100	100	100
Monthly household market expenditures (FCFA)	29, 660	9,548	34, 846	17, 946
Patients satisfied with (%):				
Services in general	75	75	60	29
Availability of medicines	71	90	4	4
Availability of supplies	35	34	11	5
Competence of personnel	66	87	51	56
Cleanliness of facility	69	87	22	27
Main reasons for choice of facility (%)				
Usually go there	24	24	28	34
Availability of medicines and supplies	23	20	3	1
Competent personnel	18	18	21	25
Short waiting time	12	16	23	16
Close to home	9	14	21	18
Other reasons	14	8	4	6
Payment for visit				
Percentage paying (all patients)	96	74	33	24
Mean payment (all patients, FCFA)	721	1,303	1,168	639
Mean payment (patients receiving drugs, FCFA)	784	1,543	2,289	2,289
<i>Note:</i> Exchange rate in 1993: US\$1 = 256 FCFA				

Availability of medicines was the second most important reason cited by private patients for selecting providers but the last mentioned by public sector patients. Public providers were preferred for their personnel's competence, shorter waiting time, and proximity to patients' home. Over three-fourths of private patients paid for the care received whereas less than a third did so in government facilities, suggesting peoples' high willingness to pay for quality.

Relative quality of public and private provider in Senegal

In 1993, the government of Senegal commissioned a study of non-governmental providers of health services. HFS undertook the study and examined costs, financing, quality of care, and efficiency of private providers (Bitran, Brewster, and Ba 1994 b; Wouters 1994).

To allow comparability with the public sector, study methods followed closely those of earlier HFS research on governmental providers. The study uncovered important differences in quality between public and private facilities (*Exhibit 3.5*). In the top figure private Catholic health centers seldom lacked essential drugs, but government facilities experienced inventory stockouts for most products during the one-year reference period. For example, two thirds of government health centers had one or several stockouts or lacked oral rehydration salts (ORS) to treat diarrhea during the recall period. For some products and facilities, inventory ruptures lasted several months to the entire year.

To assess user quality perceptions, patient-reported main reasons for provider choice were recorded (*Exhibit 3.5*, center figure). Over 80 percent of public facility users, against half the Catholic post users, said geographic convenience was their main reason for choice of provider. Psychological or other reasons behind patient preferences accounted for 35 percent of patients in private Catholic posts, or twice as much as among users of government health centers. Perceptions of quality were also elicited among medical staff (*Exhibit 3.5*, bottom figure). In Catholic health posts, over three-fourths of the

health workers rated their quality as "good"; in government health centers less than one-fourth did so.

Cost of quality improvements

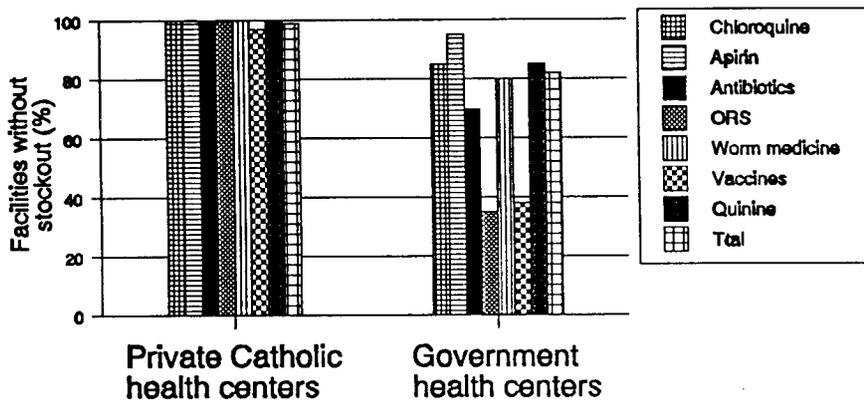
How much does it cost to improve quality of care to appropriate levels in government facilities? In the Central African Republic a panel of experts assessed quality in public facilities and determined the recurrent costs per curative ambulatory patient for raising seven features of quality to acceptable levels at constant utilization (*Exhibit 3.6*). Similar calculations were performed in Belize.

Consumer willingness to pay for better quality

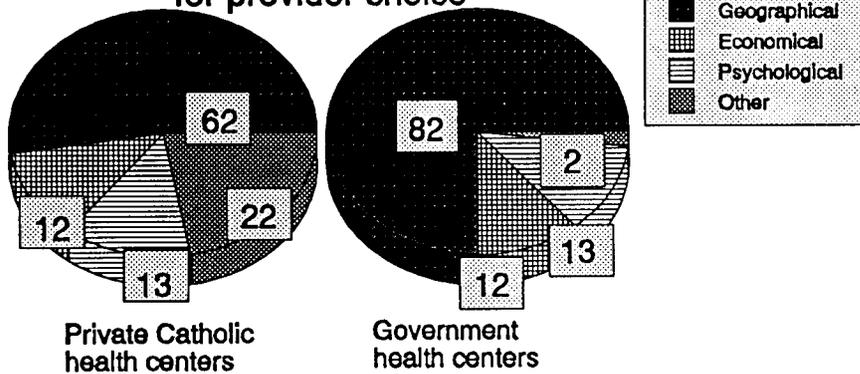
Are consumers willing to pay for quality improvements? A year after cost recovery and quality improvements had been introduced in government facilities, a survey of willingness to pay in the two test districts of Say and Boboye, in Niger, showed that most households of all income levels were willing to pay higher out-of-pocket fees to continue to receive the improved services (*Exhibit 3.7*). The amount households were willing to pay per episode of illness increased mildly with income and substantially exceeded actual fees paid during the test (bottom figure). This finding allowed researchers to recommend fee increases needed to keep up with the devaluation of the FCFA. Furthermore, under the cost recovery experiment, individuals of all socioeconomic strata exhibited a willingness to pay out of pocket for a significant part of the incremental costs of drugs. In addition, in the earmarked-tax district, tax proceeds and user copayments far exceeded the cost of quality improvements (*Exhibit 3.8*).

In the Central African Republic, government services had historically been provided free of charge to all. The household-based study described above showed that willingness to pay largely exceeded the estimated cost of the quality improvements. This result led the research team to recommend modest user fees for curative care in government ambulatory facilities, a recommendation accepted by government and passed into law in September 1994.

Availability of Essential Drugs



Patient reported main reason for provider choice



Staff self-rating of quality

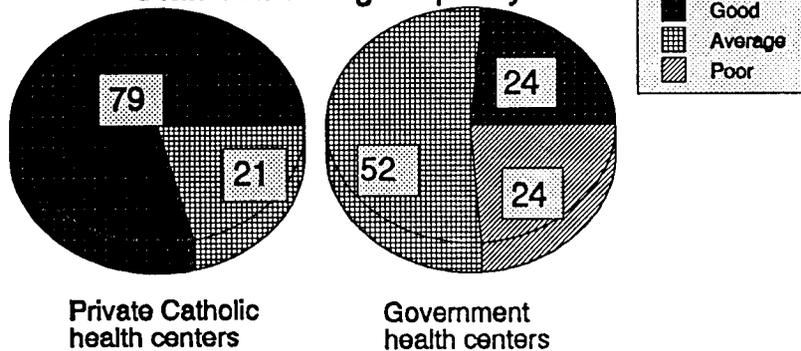


Exhibit 3.5 Public-private comparison of quality of care in Senegal

Exhibit 3.6 Willingness to pay for quality improvements in government health facilities in the Central African Republic		
Quality improvements	Estimated cost (FCFA)	Median amount respondents were willing to pay (FCFA)V
Facility maintenance	100	2,540
Knowledge of personnel	100	1,815
Medicine to treat: Malaria	150	1,850
Sexually transmitted diseases	500	2,950
Intestinal parasites	300	3,520
Acute respiratory infections	1,000	3,725
Diarrhea	150	3,730
Sample size	1,263	
<i>Source:</i> Weaver et al. 1993. US\$1.00 = FCFA 256.		

The research in Belize showed that consumers of all socioeconomic groups already were spending more privately than it would cost to provide the same services in the public sector. Further, by improving government services and having patients pay for the improvement, users would also save a considerable amount of time and money from reduced search, travel, and treatment costs elsewhere.

Because cost recovery can enhance the effectiveness of government services while saving households time and money, cost recovery appears to be an efficiency-improving policy. However, because high fees can deter demand among the poorest, ability to pay must be identified to target public subsidies appropriately. (*See Protecting the poor under cost recovery.*)

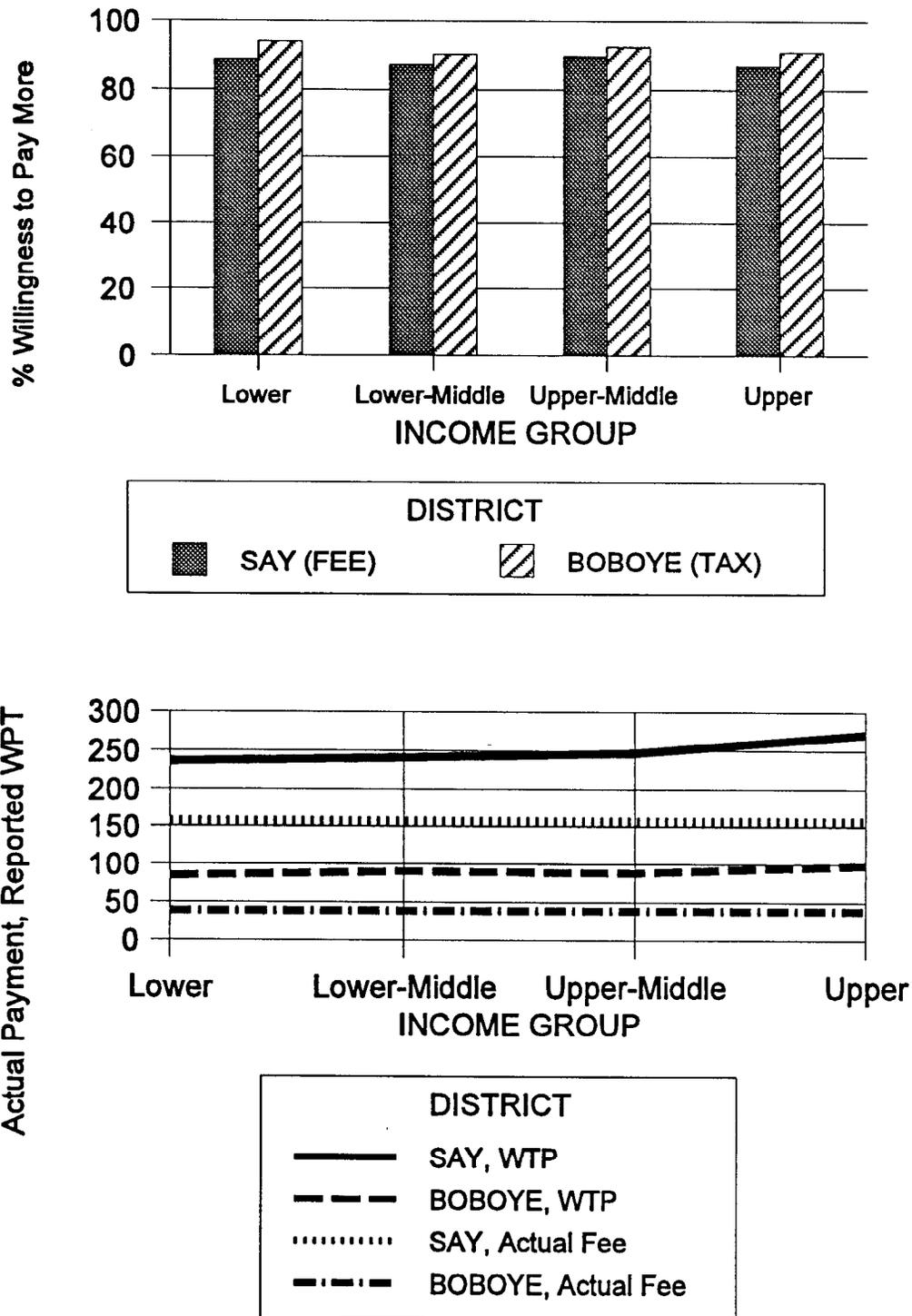
To sum up, HFS research showed that consumers place high value on such quality attributes as drug availability, provider competence, comfort, and condition of medical premises. People in every socioeconomic group are willing to pay more for improved services than additional quality improvements would cost. In Belize actual consumer expenditures on treatment complementary to government care (e.g., drug purchases from private pharmacies) exceed the cost of quality improvement in government facilities (North, Griffin, and Guilkey 1993). Reported willingness to pay may, however, overstate actual willingness to pay. Thus, to assess the equity implications of user fees, actual consumer behavior under a fee system, not hypothetical behavior, should be studied.

Protecting the poor under cost recovery

Proponents of cost recovery argue that user fees should be introduced simultaneously with mechanisms, like means testing, to exempt the poor from payment. Otherwise, they say, demand for care among the poor may fall to unacceptably low levels.

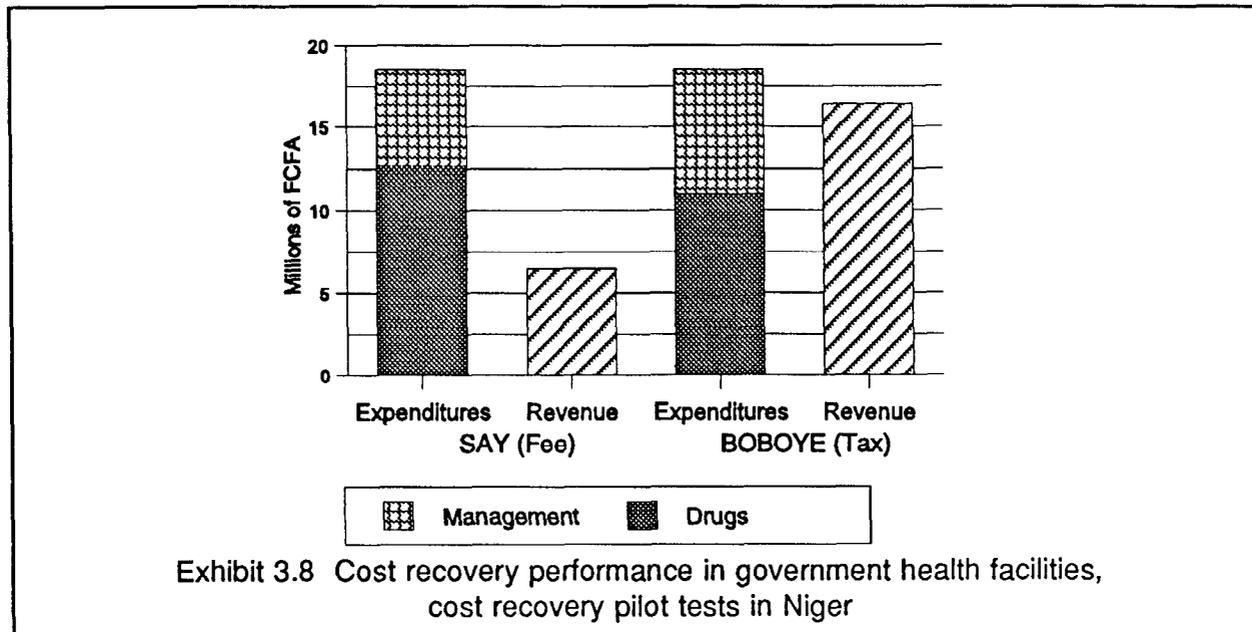
Utilization under alternative financing means: Niger

Are user fees inequitable? Niger's cost recovery pilot tests offered a unique opportunity to study the question of equity in health care. Cost recovery was adopted in two control districts. In the control district, Illéla, no changes were introduced (*Exhibit 3.9*). In Say, a flat fee per episode of acute illness was adopted; in Boboye, an annual, earmarked health tax was imposed together with a modest copayment. In both test districts, appropriate inventories of medicines were also made available and medical personnel received training in diagnostic and treatment protocols.



Source: Diop, Bitran, and Makinen 1994.

Exhibit 3.7 Willingness to pay more to maintain quality improvements, and actual payment, cost recovery pilot test in Niger



Methods	Test/District/Pilot District		
	Say	Boboye	Illéla
Tax	—	200	—
Copayment children ≤ 5 yrs	—	25	—
Copayment people > 5 yrs	—	50	—
Episode fee children ≤ 5 yrs	100	—	—
Episode fee people > 5 yrs	200	—	—

Note: During the tests, US1\$ = FCFA 256

Musgrove (1986) defines equity of access as equal probability of obtaining care of the same quality, for a given health problem, among all population groups. In the districts of Say, Boboye, and Illéla both before and after the introduction of cost recovery, there was inequity in access to government health services (*Exhibit 3.10*). Among the ailing, the poorest 50 percent of the population had a significantly lower probability of obtaining government health services than the richest 50 percent. Diop (1993) showed

that government facilities were virtually the exclusive source of facility-based care in the three districts. Unequal access to their services, therefore, was an unambiguous sign of inequity.

When user fees were introduced in the district of Say, the likelihood that the poor would visit a government facility stayed approximately the same. People in the upper 50 percent income group, in contrast, sought care more often and thus seemed to benefit more from cost recovery. In Boboye, both poor and non-poor benefited from the earmarked health tax and copayment system since both exhibited a higher probability of obtaining government care under the new health financing regime.

Since in both test districts better-off households started with higher utilization rates and increased their use more than did poorer households, the inequity in the health care system remained. In the control district of Illéla, where no change was introduced, access to health care deteriorated for all, poor and rich.

Equity in health care has several dimensions (Musgrove 1986), health expenditure being one of them. Again, in the two test districts Say and Boboye, average patient health expenditure over a two-week recall period preceding the survey dropped by almost half for all income groups combined but increased in the control district

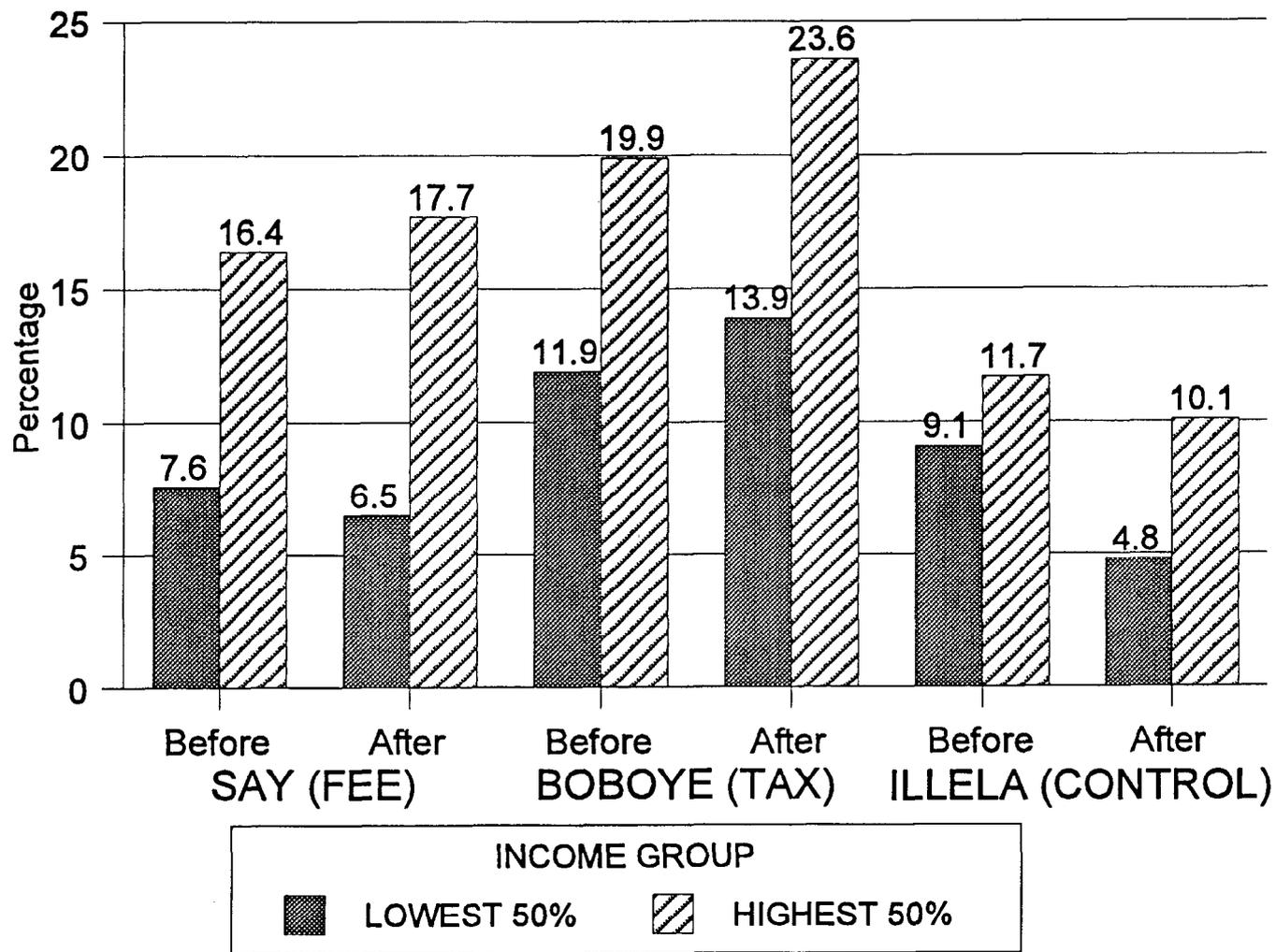


Exhibit 3.10 Utilization of government health services among the ill, by the poor and the non-poor, before and after the introduction of cost recovery, Niger

(Exhibit 3.11). These changes in treatment expenditures did not occur evenly across income categories. Expenditure almost doubled (from 230 FCFA to 420 FCFA) for the poorest 25 percent of the patients in Say, the fee district (center figure). In Boboye, in contrast, out-of-pocket treatment expenditures fell sharply—by almost two-thirds—reflecting the modest copayment per episode of illness. A similar, but unexplained, drop in treatment costs took place in the control district of Illéla. For patients in the top three income groups (bottom figure), treatment expenditures fell significantly in both test districts yet increased in the site without intervention.

Exhibit 3.11 (center figure) also shows the composition of treatment expenditures for three categories: home treatment (usually consumption of previously owned medicines); treatment outside the home (in government health facilities and in pharmacies); and travel, meals, and lodging expenses. In the control district of Illéla, a sizable portion of treatment costs was accounted for by meals, travel, and lodging, particularly in the follow-up survey, signaling a further deterioration in the status-quo government health system. With the introduction of cost recovery, expenditures on home treatment, travel, meals, and lodging fell in both test districts for people in the upper three income quartiles and for the poorest in Boboye. The opposite was true among the poorest in the fee-for-service district.

Equity in health concerns all population groups, not just income classes. **Exhibit 3.12** presents rates of use of government health care facilities by selected target groups in the three districts, before and after the introduction of cost recovery. In the control district of Illéla, accessibility to government health care remained virtually constant for children under 15 but worsened for all other target groups. Considering that the tests covered a period of only one year, it is apparent that without change, the public health system is quickly deteriorating. In Say, only a mild drop occurred in use of public care among children under 15, women, and the 25 percent poorest. In Boboye, the improvement in quality of care coupled with the modest copay-

ment meant that accessibility improved significantly among all income groups, particularly the poorest. Further, after the introduction of cost recovery, two important target groups in Boboye—women and children—fared better than the general population.

Several findings emerge from an analysis of the Niger data. First, before the introduction of cost recovery, the government health care system was very inequitable. The poorest half of the population had a much lower likelihood of seeking care from government facilities than the richest 50 percent. Second, in Say District, where a fee per episode of illness was introduced, inequity of access became slightly greater. However, people who obtained government care received a much better product, as payments made possible the provision of required drugs to patients. Third, in the two districts where cost recovery was adopted, treatment-related expenditures fell substantially for the three upper income groups and for the lowest income quartile in the tax district of Boboye, where the modest copayment did not pose an important financial obstacle to the poor. In the fee district, however, the poorest 25 percent of the population spent more on treatment than they did before the reform, although, again, their higher expenditure bought better service. Fourth, the improvement of quality in government health services meant that people were able to meet all their medical needs in public facilities, thus saving time and other costs of treatment elsewhere. More prompt treatment meant that patients restored their health faster, thus reducing disability and averting illness-related deaths.

From an equity viewpoint, however, fees were problematic for Niger's poorest, which illustrates the importance of coming up with mechanisms for exempting them from payment. Means testing, discussed below, is one tool for identifying individuals with limited ability to pay in order to better target public subsidies. (Discussed later is the question of social or private insurance which, through lower out-of-pocket treatment costs, mitigates the problem of financial barriers to care when health problems arise.)

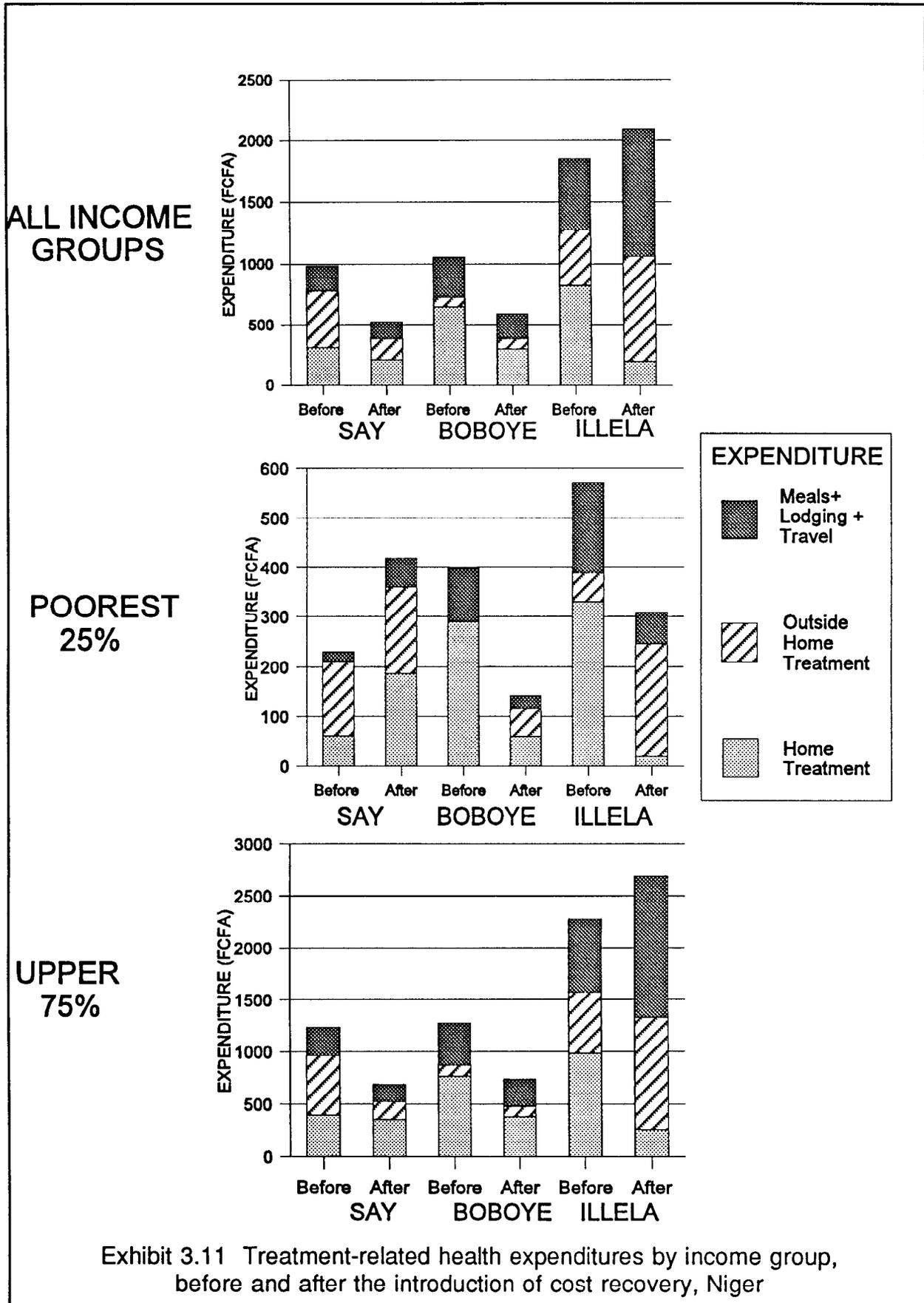


Exhibit 3.12 Use of government health services by the ill, selected population groups, before (B) and after (A) cost recovery, Niger						
Target Group	Test / District / Control District					
	Say (Fee per episode)		Boboye (Tax + copayment)		Illéla (Control)	
	B	A	B	A	B	A
Children under 15 years	13.0	12.6	15.0	20.4	8.2	8.5
Women	14.4	13.4	15.4	20.3	10.5	6.2
Village without health facility	6.6	7.8	11.8	14.4	5.2	3.1
Poorest 25%	7.4	5.0	8.4	17.2	4.4	3.7
Entire district	12.7	11.9	15.5	18.9	10.2	7.9

Source: Diop, Bitran, and Makinen 1994.

Means testing and targeting

Willis (1993) conducted a review of the literature and experiences and developed a conceptual framework on means testing and targeting for public services. Her main findings are discussed next.

User fees may place an excessive financial burden on individuals with limited ability to pay. Means tests are conducted to assess people's ability to pay and to help target public subsidies. According to Willis, targeting can be based on individual characteristics (e.g., income), group characteristics (age, gender, region), or self-selection (choice of a specific provider). Individual means testing may be the most precise way of identifying ability to pay but can also be the most expensive.

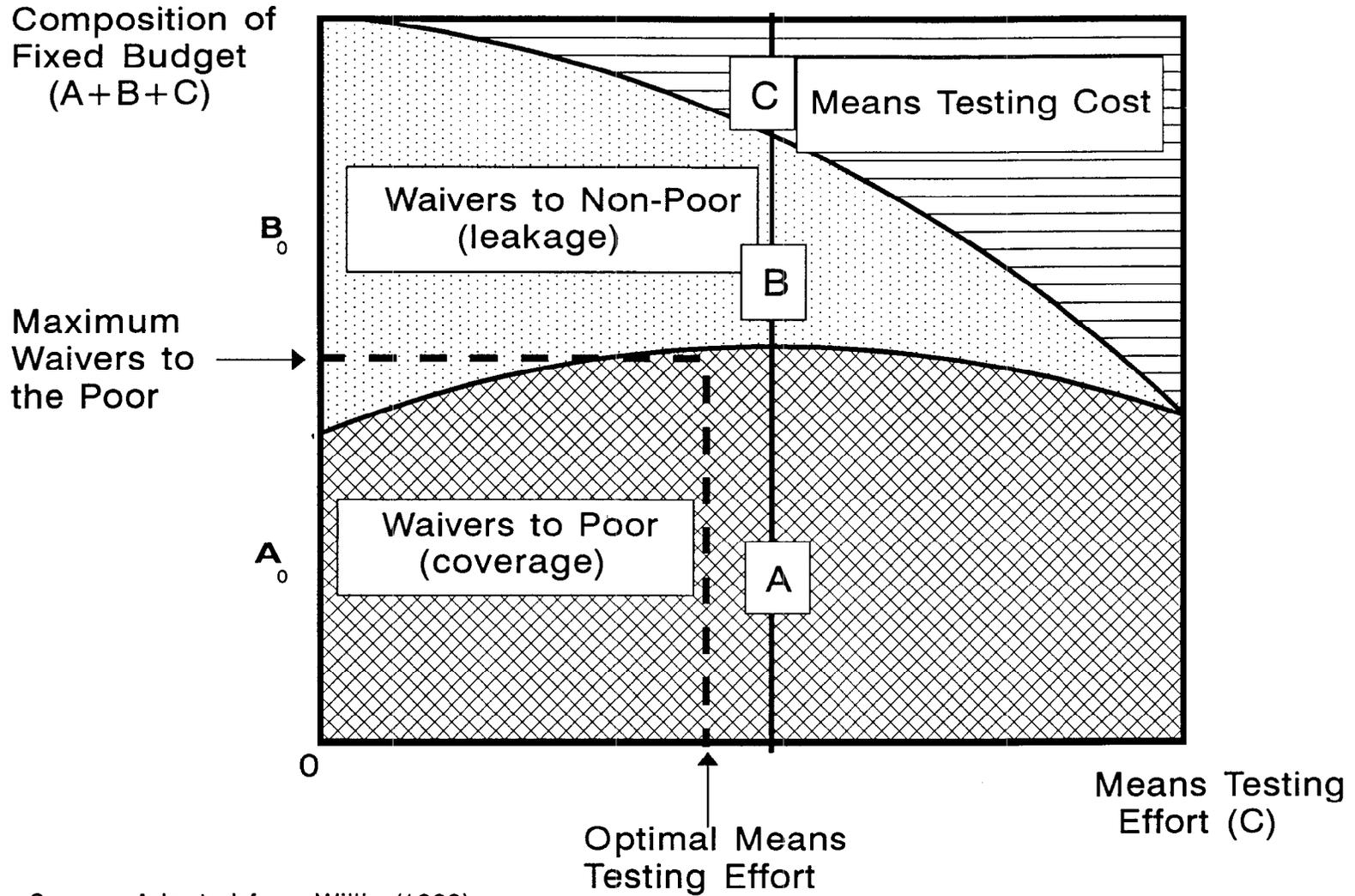
Exhibit 3.13 illustrates the connection between the effort devoted to individual means testing by a public service and the effectiveness of public subsidy targeting. When no means testing is undertaken, an important part of the subsidies, B_0 , is filtered through to the non-poor, and the poor receive only A_0 in subsidies. As the means testing effort—and the associated cost— increase, so does the share of public subsidies that reaches the poor. But because of rising costs and the decreasing returns of testing, the public agency does not choose to continue testing until the entire subsidy is allocated to the target bene-

ficiaries. Instead, it stops when it reaches the optimal means testing effort, i.e., the point where the additional cost of means testing is no longer worth the reduction in subsidy to the non-poor. At the optimum, the cost of the means test is C; the poor receive subsidies in an amount equal to A while subsidies totaling B leak through to the non-poor.

Information from the means test can be used to target public subsidies. Willis examines 56 targeted projects in developing countries of which only 7 documented the use of means testing in the health sector. **Exhibit 3.14** summarizes the main findings for 5 of the 7 health projects analyzed.

Willis notes the lack of documented means testing practices in the health sector of developing countries. She observes that the effort devoted to the enforcement of means testing is greater when verification is inexpensive and when program benefits are high (expensive inpatient services). For the few (only three) programs that recorded costs of means testing, costs accounted for 4 percent of program benefits. Willis points out that the effectiveness of means testing varies greatly among programs. Failed programs can sometimes be attributed to a weak design—inappropriate exemption criteria—or to failure to update fees and income groups, rendering them inoperative over time (as in Belize).

Trade-off between the accuracy and the cost of means testing



Source: Adapted from Willis (1993)

Exhibit 3.13 Accuracy cost trade-off in means testing under cost recovery

Exhibit 3.14 Means testing for health services in practice, selected cases					
COUNTRY/ SOURCE	SERVICES COVERED	COST RECOVERY SYSTEM IN PLACE	BENEFIT PROVIDED	MEANS TESTING MECHANISMS	RESULTS AND COMMENTS
Belize La Forgia 1992	Inpatient and outpatient care in government hospitals	User fees since 1958 but various services free for pregnant women, children, and low-level civil servants	Sliding fees	Patients classified into 5 income groups based on self-reported income. No independent verification of income	Lax enforcement Fees and income categories not updated since 1958 Flat fee structure despite sliding scale Exemptions granted inconsistently
Dominican Republic La Forgia and Heinig 1992 Grosh 1992a	Inpatient and outpatient care in government hospitals	User fees introduced in 1980. Local communities allowed to set fees and determine procedures for granting fee waivers	Full or half-price exemption	Fees and exemption mechanisms determined by each hospital. Social workers determine eligibility in patient interview	No fixed criteria for determining ability to pay Chaotic and arbitrary income-eligibility process Inconvenience results in fewer than 10 percent of patients receiving benefit
Korea Levine et al. 1992	Curative services in outpatient and inpatient government facilities	User fees	Three levels of subsidies (free care, partial exemptions, and zero-interest loans)	Centrally imposed formal eligibility criteria and sophisticated structure. Subsidy granted depending on income, location, and health status	Beneficiaries accounted for 11 percent of country population in 1985-86 Most indigent care provided in government hospitals Some indigent care provided and absorbed by private providers
Thailand Mills 1991 Levine et al. 1992	Inpatient and outpatient care in government hospitals	User fees account for about half of all revenue in government hospitals	Since 1980, medical cards, awarded according to income, entitle the bearer to free care	Cards distributed by local authorities and valid for 3 years	About one-fifth of the population held cards in 1985 In 1986, program cost was 4 percent of ministry of health budget Leakage (provision of free care to non-card holders) may be equal to card holder care
Kenya, South Nyanza Huber et al. 1989	Inpatient and outpatient care in non-government hospitals	User fees, which constitute sole source of revenue	Partial or full exemption from fees	Criteria for determining eligibility are flexible and vary by facility. Information from patient, facility personnel, and community leaders used to assess eligibility	Exemptions seldom sought on the basis of low income Exemptions for inpatient care granted to less than 5 percent of patients Exemptions for outpatient services are rare
<i>Source: Willis 1993</i>					

Differences in outcomes also arise from differences in staff commitment to cost recovery; and weak implementation of fee-waiving mechanisms may reflect staff ambivalence toward cost recovery. Levine (et al) (1992) suggest that a facility's ability to retain and spend locally user fee revenue may give the staff an incentive to apply waivers more strictly, thus reducing leakage of subsidies.

Willis concludes her review with a discussion about means testing and patient self-selection. For relatively inexpensive services, like curative ambulatory care, higher income individuals usually seek care from higher priced, better quality private providers. Lower income people self-select the lower priced government ambulatory facilities. In such cases, the existence and accuracy of means testing is less problematic. Conversely, for more resource-intensive services, like inpatient and specialty care, both rich and poor may seek government services because of their relatively lower prices. Weak or missing means testing may result in large leakages of subsidies to the non-poor. Data collected by HFS from Egypt confirm this point: the private sector supplies most of the relatively inexpensive outpatient care, but all income groups prefer public hospitals for relatively high-priced inpatient services. Similar results are observed from the Dominican Republic (Gómez 1988) and El Salvador (Gómez 1990).

In Niger, HFS sought to promote a formal means testing policy in pilot test facilities but the government chose to postpone a discussion of the question. Nevertheless, a significant share of government services in Niger is provided free of charge to a variety of beneficiaries, including students, health facility staff, and civil servants. However, these groups may not be the most needy: students generally belong to well-off families that can afford to pay for health services; civil servants constitute a privileged minority with formal employment and regular wages. The allocation of some fee exemptions on the basis of criteria other than financial need is fairly common in developing countries.

Public sector reforms

Critics of government involvement in the production of goods and services, including health care, argue that public institutions are inherently inefficient. Behind this inefficiency, they contend, is a set of perverse incentives that fail to reward good performance or punish inappropriate behavior. These critics are usually skeptical that efficiency incentives can successfully be introduced in public services. Rigidities in civil service regulation are often cited as one among several impediments to the introduction of incentives (Stevens 1991). To improve the efficiency of government spending in health, they prescribe that production should be in the hands of the private sector, where appropriate motivations lead to cost minimization.

HFS sought to explore the second and third questions—the feasibility of introducing efficiency incentives in government health services and the relative efficiency of public and private providers. In a Phase 1 HFS paper, Bitran and Block (1992) reviewed the experiences of developing-country government health services with efficiency incentives. The authors assumed that government health services generally have a triple goal: to improve health status, to preserve equity objectives, and to meet revenue constraints. These objectives can be mutually reinforcing or mutually competing. For example, to improve the efficiency of a vaccination campaign on a fixed budget, a health facility can maximize the number of children immunized by vaccinating only those who live nearby. However, such a strategy would be inequitable, because it would exclude any child living elsewhere. Likewise, a clinic that must raise revenue from user fees to pay for medical resources can increase revenue by raising fees if demand is inelastic. But such a measure would be inequitable as the poor, who are more responsive to price changes, would reduce their demand proportionately by more than the non-poor. Although provider strategies need not always lead to conflicting objectives—staff behavior that improves performance along the three dimensions is possible—potential trade-offs among health service objectives must

be kept in mind when designing staff incentives to improve efficiency.

The authors showed substantial gains in the efficiency of public health services after the introduction of incentives (*Exhibit 3.15*). In Bolivia, PROSALUD health centers were able to offer otherwise expensive specialty services, increase cost recovery revenue, and expand curative and preventive output through staff incentives. In Zaire, health zones were able to deliver good quality primary and preventive care and to reach high rates of cost recovery, owing partly to staff incentives. And in the Zairian health zone of Bwamanda, insurance enrollment increased, owing in part to an incentive program for health workers responsible for recruitment. Positive results with incentives were also obtained by the municipality of San Juan, Puerto Rico.

Incentives must, however, be carefully designed to minimize adverse effects on equity. Most incentives studied were economic and relied on the existence of user fees. In such cases, as in Zaire and Kenya, exemptions were seldom granted to patients because staff income was tied to cost recovery revenue.

Efficiency in consumption

An efficient health system achieves the maximum possible health gains with available resources. Evidence from throughout the developing world, some of it presented here, suggests that government health systems are inefficient. The conceptual framework developed by Barlow (1993) in his Phase 1 MAR, focuses on several kinds of inefficiency defined and described in *Exhibit 3.16*: fiscal inefficiency; productive inefficiency; divergences between private and social preferences through misinformation and positive externalities; distortionary pricing; exclusive pricing; and outside influences on choice.

The first and third causes of inefficiency listed in the exhibit—fiscal and productive inefficiency—resulting from provider actions, can be considered “supply inefficiencies.” Fiscal inefficiency has been the subject of considerable

debate in health policy in recent years. Despite the sense that a few countries, like the United States, spend too much on health care, most other countries, particularly poor ones, seem to allocate too little to health activities. Prescribing how much a developing-country government should spend on health services was beyond the reach of the HFS research agenda and has been generally avoided because of its inherent theoretical and empirical difficulties.

Productive inefficiency was addressed by HFS in the context of sectoral reform in Senegal. (*See Public-private differences in efficiency.*) Barlow classifies the last four listed causes as consumption inefficiencies. A strong assumption in Barlow's framework is that a second possible source of inefficiency termed allocative efficiency—the parceling out of government resources among levels in the delivery system, and among providers and activities—is determined by consumer demand.

Barlow's review of the literature and experiences, as summarized in *Exhibit 3.16*, documented all four causes of consumption inefficiency. Consumer misinformation led to poor identification of symptoms and inappropriate treatment of diarrhea in Kenya, Ecuador, and Nepal. Likewise, pregnant women in Malawi refused to take chloroquine as an anti-malarial prophylactic during pregnancy. And in Kinshasa, Zaire, misconceptions about the transmission and prevention of AIDS resulted in insufficient prevention through available methods. Externalities have been documented in Cameroon for the case of measles vaccination. Distortionary pricing resulted in spurious consumption of under-priced curative services in a Chinese collective and in low demand for government services in other settings where low prices convey a signal of poor quality care. Exclusive pricing was documented in Bangladesh where expensive government services led to under-consumption. Outside influences on choice, in the form of inappropriate counseling and treatment of patients by health staff, were documented in Indonesia, Jamaica, and Africa.

Exhibit 3.15 Efficiency and other incentives in government health services, selected examples			
PROGRAM USING INCENTIVES	OBJECTIVE	TYPE OF INCENTIVE	RESULT
PROSALUD, Bolivia	Allow resource-constrained program health centers to have access to expensive medical specialists like pediatricians, gynecologists, and dentists	Allow specialists to keep 50 percent of revenue they collected from patients via user fees.	Attracted needed specialists and proved beneficial, medically and financially, to both specialists and program health centers.
PROSALUD, Bolivia	Reduce recurrent labor costs of new physicians and draw in more patients	Set base salary of new physicians equal to 80 percent of salary of general practitioners. Complement their income with portion of user-fee revenue. When average income from both sources exceeds salary of general practitioners, increase base salary to new average.	Not documented
PROSALUD, Bolivia	Improve medical staff productivity, measured as number of patients seen	Instead of automatic annual salary increases, tie health center staff salary raises to individual output, measured by number of curative and preventive visits. Salary increases were computed such that staff had to work harder to obtain raises equal to historical levels.	Cost recovery performance increased 78% to 109% 16 months into program. Staff salaries increased below historical rates, in part because of high inflation. Mix of curative and preventive care increased in favor of former, since user fees were levied only on curative.
Government health centers operating under Bamako Initiative, Guinea and Benin	Increase both coverage of preventive services and health center revenue	Health center staff received 200 FCFA (about US\$0.75) per fully immunized child within one year of birth; 200 FCFA per pregnant women who received three prenatal consultations and two tetanus toxoid vaccinations, and who delivered in health center; and 50 FCFA for each curative consultation.	Not documented
Parastatal health centers in Zaire's health zones	Offer an attractive compensation package for nurses and other health staff; improve financial self-sufficiency of health centers	Local health communities, with health staff participation, determined cost recovery policy. User fees were typically chosen. Health centers were allowed to retain and spend all user fee revenue locally, with community concurrence. Staff complemented meager government salaries with user fee revenue.	Cost recovery performance in health centers generally exceeded 100 percent of recurrent costs. Health center staff worked hard. Patients were seldom exempted from payment, as exemptions meant lower income for staff.
Health zone of Bwamanda, Zaire	Expand enrollment in newly created hospital insurance program	Health workers acted as insurance agents. They were paid 3 percent of annual premium for each new enrollee that they brought in.	Enrollment reached nearly 100 percent in 3-4 years, although this cannot be attributed entirely to recruiting incentives. Rising enrollment was partly result of growing consumer confidence in ability of insurance program to deliver promised health benefits.

(continued on next page)

Exhibit 3.15 Efficiency and other incentives in government health services, selected examples			
PROGRAM USING INCENTIVES	OBJECTIVE	TYPE OF INCENTIVE	RESULT
Government hospitals and maternities, Chile	Reduce proportion of caesarian deliveries	Obstetricians, who were paid on fee-for-service basis, were offered non-monetary benefits, like access to additional equipment and medical resources, if they reduced their combined caesarian rate.	Program failed because physicians saw greater individual gain in keeping high rate of caesarian deliveries (which were paid at higher fee than normal deliveries).
Municipality of San Juan, Puerto Rico	Improve cost-effectiveness of AIDS care. When incentive program was adopted, 86 percent of AIDS patients were receiving inpatient care, threatening to swamp San Juan's public health system	Municipality contracted with private, non-profit organization to provide comprehensive AIDS care. Doctors and nurses were offered salaries significantly higher than those paid to medical staff in municipal hospital. Non-monetary incentives, like tuition assistance and research opportunities, were also offered. Staff tenure at organization was contingent on responsiveness to patient needs. In return, staff members were assigned particular cases and were required to be accessible 24 hours a day.	Mean length of stay of hospitalized AIDS patients fell by 47%. Average annual per capita cost of hospital care for AIDS patients fell by 74%. Quality of AIDS care improved. Reduced costs of care permitted municipality to pay doctors salaries three times higher than in municipal hospital. Organization nurses were paid 67% more than municipal hospital colleagues.

Source: Bitran and Block (1992)

HFS work in this area illustrates the importance of educating and informing consumers about the benefits and appropriate implementation of treatment. More globally, the work suggests that the pursuit of health sector efficiency must not only focus on the supply-side of the health system but must also grant importance to policies that promote appropriate demand for services.

Reallocating public sector spending

Resource allocation in health care has been at the center of the policy debate in recent years. It is a main focus of the World Bank's *World Development Report 1993* and a related research effort on disease control priorities in developing countries (Jamison et al. 1993).

The World Bank (1993) recommends reducing government spending on tertiary care and specialist training—activities that provide few health gains per dollar spent—and increasing spending on prevention, public health, and treatment and control of infectious diseases. It also proposes public funding of a package of cost-effective health services to remove financial barriers to access.

An HFS study in Kenya sought to inform the debate about government resource reallocation in health care. The project identified resource gaps in government primary health care facilities and estimated the

financial requirements that would allow facilities to function appropriately at full capacity (Forgy et al. 1990). Using as a point of departure the existing configuration of primary care facilities, the HFS team inferred the resource gap of facilities based on physical condition, staffing norms, and equipment and supply requirements. This procedure likely underestimated the resource gap, however. Severe shortages of staff and supplies (particularly drugs) meant that observed utilization of primary health services was well below need and potential demand. If resource availability were expanded, demand for curative services would likely increase, generating further gaps in inputs. Nonetheless, the procedure was useful in providing a first estimate of resource requirements. The annual recurrent gap represented 37 percent of actual government expenditures on primary and preventive health care and 21 percent of the entire ministry of health (MOH) recurrent budget.

Exhibit 3.16 Sources of inefficiency in health			
SOURCES OF INEFFICIENCY	DESCRIPTION	ASSOCIATED RESEARCH QUESTIONS	SELECTED EMPIRICAL EVIDENCE
Fiscal inefficiency	Too few resources allocated to health sector	Is enough money being allocated to government health services?	Not available
Allocative inefficiency	Public resources mis-allocated among levels, providers, and activities in health sector	Do resource allocations respond to cost-effectiveness criteria?	Developing-country government resources inappropriately allocated to health interventions with little health returns (World Bank 1993)
Productive inefficiency (including both technical and economic inefficiency)	Mismanagement of government health resources	Do providers of health services minimize costs?	Productive inefficiency in government health facilities in several developing countries (Barnum and Kutzin 1993; World Bank 1987; Bitran 1992)
Divergences between private and social preferences	Misinformation	Individuals misinformed about health effects of certain health services	What effects does misinformation have on choices between alternative health services?
	Positive externalities	Individuals ignore externalities—positive effects own consumption may have on others' health.	Which health services generate significant externalities?
Distortionary pricing	Prices of government services inappropriate, leading to too much or too little consumption of services	To what extent do relative prices of government health services depart from relative marginal costs of services?	Ignorance about causes and correct treatment of diarrhea, as documented in Kenya (Eisemon et al. 1987), Ecuador (McKee 1987), and Nepal (Stapleton 1989)
			Reluctance to take chloroquine as an anti-malarial prophylactic during pregnancy among rural women in Malawi (Helitzer-Allen and Kendall 1992)
Exclusive pricing	Government health services sometimes unused because prices set too high	Are prices of certain services set too high, reducing demand so much that facilities are largely unused? Are non-price costs of consumption, like travel time and costs, and waiting time, high enough to depress demand for some government health services?	Misconceptions in Kinshasa, Zaire, about transmission and prevention of AIDS (Bertrand et al. 1991)
			Spillover effects of measles vaccination in Cameroon (Makinen 1981)
Outside influences on choice	Providers, relatives, or social forces that interfere with personal preferences regarding health care can lead to inferior health outcomes.	How widespread are outside influences on consumer choice? Do these influences raise or lower health status?	Spurious consumption of free-of-charge curative services among villagers in a Chinese collective (Huang 1988)
			Under-consumption of free government services because gratuity signals low value to some consumers (Dutton et al. 1990)
Outside influences on choice	Providers, relatives, or social forces that interfere with personal preferences regarding health care can lead to inferior health outcomes.	How widespread are outside influences on consumer choice? Do these influences raise or lower health status?	Under-utilization of government health clinics in Bangladesh due to excessive prices (Stanton and Clemens 1989)
			Inappropriate counseling to mothers about breast feeding by health providers in Indonesia (Hull et al. 1989) and in Jamaica (Cunningham and Segree 1990)
Outside influences on choice	Providers, relatives, or social forces that interfere with personal preferences regarding health care can lead to inferior health outcomes.	How widespread are outside influences on consumer choice? Do these influences raise or lower health status?	Provision of incorrect treatment for malaria and diarrhea by African health workers (Foster et al. 1991)
			Over-prescription of drugs by government health workers in the Gambia (Tilney et al. 1992)

Source: Barlow (1992) and complementary references

In addition, a one-time investment gap needed to upgrade buildings and train staff represented another 18 percent of the ministry's annual recurrent budget. To eliminate the gap, the government health budget should have been 39 percent higher than it actually was in 1990.

HFS work in the area of *Reallocating public sector spending* was limited to the study in Kenya. However, in several other settings, in both Latin America and Africa, HFS gathered evidence about what seemed to be inappropriate resource allocation patterns. Government health budgets heavily skewed toward urban, hospital-based curative care, and toward labor expenditures were observed in the Central African Republic, Ecuador, Niger, Senegal, and Tanzania. The implications of such misallocations on efficiency and equity in Niger and Senegal have been discussed above in this chapter and are addressed in greater depth in subsequent sections.

Expanding the role of social financing

Social financing and health insurance are two forms of health care financing that have received a great amount of attention among developing-country governments, donors, and international agencies in recent years. This section presents key project findings on the issue of social financing.

Social financing, health insurance, and prepayment

Social financing of health care exists when funds are drawn from society at large to pay for an array of health care benefits offered at little or no out-of-pocket charge to a particular group of people or to all members of society. Social financing can be paid for: from general tax revenues (as in services provided by ministries of health around the world); from mandatory health taxes specific to (earmarked for) health (as in the health component of social security in South America, the Caribbean, and Asia); or from compulsory contributions, established by law, to a public or private health fund other than social security. For example, to pay for health services a Chilean law mandates an earmarked salary withholding, equal to 7 percent of a person's

salary (with a ceiling). Chileans can choose whether they send their 7 percent to the public health fund (to be entitled to government subsidized health services) or to a private health maintenance organization (HMO).

Social financing has two main characteristics. First, funding for health services is socialized, in the sense that a mechanism exists for drawing funds from society at large (e.g., taxpayers, social security affiliates) to pay for health services. The socialization of funding usually rests on some sort of legal compulsion, like taxes or health care salary withholdings. Additionally, the socialization of financing generally involves a redistribution of income: usually, individual funding is positively related with income although the health benefits are generally the same for all. This last feature—widespread availability of health benefits to all members of the program—constitutes the other basic characteristic of social financing.

Social financing and voluntary private health insurance share a common characteristic: the beneficiaries of both kinds of arrangement benefit from risk sharing, or the ability to remove from the individual, and to pool among all group members, the risk of catastrophic (very expensive relative to income) and uncertain health events. Voluntary private health insurance is not treated as social financing in this document because its beneficiaries are typically a selected group of people—usually those with incomes high enough to afford the premium.

Social financing differs from voluntary health insurance in that not all beneficiaries contribute to the program's funding. In contrast, all health insurance beneficiaries are covered by an insurance premium either paid by the individual or cofinanced by the individual and his or her employer.

Health insurance offers financial coverage for a broad array of health services. To limit its liabilities and thus its financial risk, health insurance typically establishes limits, exclusions, and copayments that cap the funding of health benefits that can accrue to the beneficiary.

Prepayment, another health financing mechanism, consists of advance payment for a well-defined set of future health services, like enrollment in a special maternity program

by pregnant women. Prepayment differs from health insurance mainly in its more narrow definition of health benefits, which reduces the extent of risk pooling.

A common characteristic of all forms of social financing, health insurance, and prepayment, is that beneficiary contributions, if any, are never returned. Benefits come only in the form of partial or full financing of beneficiary care.

Health insurance and prepayment programs can be voluntary or compulsory. When voluntary, the problem of *adverse selection* arises: people anticipating higher than average health expenses may be more likely to enroll in the program, thus increasing the program's costs through more and higher claims. To remain viable, the program must increase the premium or prepayment, thus making enrollment increasingly less affordable. Compulsory enrollment removes this problem by pooling risk among a large group of beneficiaries. Because social financing is equivalent to mandatory health insurance, the problem of adverse selection does not arise.

Social financing of government health services can be viewed as a form of cost sharing across the population. As such, it offers advantages over user fees. First, unlike user fees, social financing allows risk pooling. Because most individuals are risk averse, they prefer affordable insurance to protect themselves against large and unpredictable health care expenses. Second, since out-of-pocket payments for care are typically low under social financing (copayments), this financing mechanism lowers financial barriers to access, thus making the system more equitable by improving health service accessibility by the poor. Third, in many poor economies, like some African societies that engage in seasonal crop trading, household cash income is uneven and often not available to defray health care costs as they arise. By collecting household premiums when cash is available, social financing can be viewed as forced household saving to finance health care.

Social financing also has several disadvantages. First, the lack or small size of copayments under social financing means that beneficiaries demand more care, thus

increasing total health expenditure. This phenomenon is referred to as *moral hazard*. Second, the expansion in the volume of services provided through social financing may bring about an increase in the unit cost of services because of diseconomies of scale among producers of health care. Combined with moral hazard, this phenomenon may help to raise health care costs in what is termed cost escalation. Third, social financing requires the existence of mechanisms for transferring health funds to providers of services. This usually entails the development and operation of management and control systems, and provider contracts, to administer the program's health benefits. When social financing is for a segment of the population only, systems for identifying beneficiaries are also required. The administrative burden imposed for managing benefits under social financing, combined with the potential for fraud by both providers and beneficiaries, further increases the costs of social financing.

Extending insurance and social financing

HFS undertook assessments of private insurance and social financing programs in several countries. In most of them, extending insurance coverage to low-income populations was the main objective of the efforts. In Fiji, Dominican Republic, Ecuador, Kenya, Kazakhstan, Pakistan, and Papua New Guinea, HFS insurance-related activities were undertaken in the context of technical assistance. The results are not reported here but can be found in the respective technical assistance reports. HFS also undertook a detailed comparative review of 15 health insurance experiences in developing countries. In addition, in Burkina Faso, Chile, and Niger, the project conducted specific field research into the feasibility of expanding social insurance. Results from the 15-country case study review and from the field activities are presented next.

Health insurance in practice: 15 case studies from developing countries

A Major Applied Research Phase 1 paper and a companion Smaller Applied Research paper by La Forgia, Griffin, and Bovbjerg (1993) reviewed the experience of 15

developing countries with the expansion of health insurance to lower income populations. The authors paid special attention to the strategies used to increase coverage and to finance the services, as well as to deal with the problems of adverse selection, moral hazard, and cost escalation.

La Forgia et al. identified four strategies for expanding health insurance to low-income populations: 1) subsidized extension of statutory insurance (Costa Rica, Ecuador, Mexico, and Panama); 2) linkages between rural communities and public health care providers (Guinea Bissau, Thailand, and Zaire); 3) innovative public-private collaboration (Dominican Republic and Philippines); and 4) systemwide reconfiguration (Chile, Korea).

Under the first strategy, Ecuador, Mexico, and Panama focused on the provision of social insurance to rural groups. Together with Costa Rica, all four countries relied on the existing social security system to expand social insurance. In Panama and Costa Rica unaffiliated populations were incorporated into social security. In Mexico and Ecuador new systems were created with linkages to social security, and urban affiliates subsidized their rural counterparts.

With the second strategy, rural communities supported the development of health insurance for government-provided care to raise additional financial resources needed to improve the quality of services.

Under the third strategy, the Dominican case contrasted sharply with the previous examples. There, schoolteachers rejected social security coverage in favor of a mixed system that combined public financing with private provision. Although this meant restricted choice of providers and higher out-of-pocket expenses, teachers preferred the new system because it provided better quality services. In the Philippines, the social insurance system of Medicare extended coverage of outpatient services through contracts with private health maintenance organizations.

The fourth strategy encompassed a diverse set of experiences. Korea's government has aimed for universal coverage through a system of mandatory enrollment, minimum benefit levels, public subsidies for the poor,

decentralized management, private provision, and self-financing during a 15-year period. Korea's new system seeks to reduce inequities of a former free-market approach. Several programs have been adopted under this general framework, including sickness funds for industrial workers, and urban- and rural-based risk pools for the self-employed.

Chile's reconfigured health care financing system is characterized by mandatory coverage for the formally employed, although the individual chooses whether to join the public system or to purchase private, HMO-like health insurance. HMOs have been chosen mostly by the well-off whose health salary withholding is high enough to pay for private premiums. Over 60 percent of the population has remained in the two-tiered government social insurance plan: middle-income populations can opt for a system of government vouchers, with various levels of copayments and private provision, while low-income groups can opt for free provision in public facilities.

Concerning adverse selection, La Forgia et al. identified six mechanisms used by case-study countries to deal with the problem. They included: minimum number or proportion criteria (requiring that a minimum number of people affiliate simultaneously); benefit streamlining; limited choice of provider; waiting periods; compulsory enrollment; and risk rating and screening of potential enrollees.

The authors found ample evidence of moral hazard. Hospitalization rates among hospital insurance beneficiaries in Bwamanda, Zaire, were two to seven times higher than among non-beneficiaries. Prolonged hospital stays were common among beneficiaries of Kenya's National Health Insurance Fund. Health card holders in Thailand made greater use of health services than non-holders.

Finally, La Forgia et al. found evidence of cost escalation. Fee-for-service provider reimbursement plans in Korea has meant that health care costs have risen at twice the pace of inflation since the introduction of social insurance. The experiences of Costa Rica and Panama have demonstrated that an insurance-owned delivery system, with salaried personnel, does not always succeed in controlling costs. Several methods have been

adopted with varying degrees of success in the countries studied to contain costs, including benefit limits, hiring of lower cost providers, provider capitations, competition, gatekeepers, copayments, deductibles, and utilization reviews.

Model of social financing through demand subsidies in Chile

By 1993, about a third of Chile's population was enrolled in ISAPREs—private, HMO-like health care institutions. The other two-thirds of the population were beneficiaries of FONASA, the public health fund. Although FONASA allowed use of private care, in practice reimbursement rates meant that low-quality private or public providers were the main options for many FONASA beneficiaries. The government accounted for more than half of the supply of health care services and functioned inefficiently.

The HFS Project undertook research in order to propose a new system of financing and delivery aimed at improving sectoral performance. Under the new regime the government would subsidize demand—not supply—and would promote private provision, provider competition, and free choice of provider by households (*Exhibit 3.17*). Based on ability to pay, with the new system the government would continue to subsidize health care for the poor by cofinancing a minimum package of services. Beneficiary households would enroll with an outpatient clinic of their choice for a fixed monthly payment. In exchange, the clinic would provide primary care in its own facility and with its own staff, and would contract out with a general hospital and with specialty centers for inpatient and specialty services. The primary clinic would have an economic incentive to reduce treatment costs and thus to promote prevention. Clinics would be private entities partially or fully owned by shareholder medical professionals. Subscribers could change primary clinic at any time to promote provider competition for service. Clinics, in contrast, could not unilaterally end a contract with a client. Copayments would moderate use of services. Based on existing information on health service utilization and costs, and on household and patient

socioeconomic and demographic characteristics, the researchers showed that the model proposed was feasible from an economic and technical standpoint, and that it would improve both equity and efficiency.

Feasibility of social financing and user fees in Burkina Faso

Like most other countries in sub-Saharan Africa, Burkina Faso has historically provided primary health services at no direct charge to users. Beginning in 1993, however, ambulatory health facilities were permitted to retain fees collected to help finance their non-salary operating costs. That year HFS was asked to assist the government in a study of the impact of user fees on demand and in developing a methodology for setting user fees at a local level. A survey of 1,800 households was conducted in three provinces, together with a smaller survey of government ambulatory health facilities in the same provinces. The data on demand and costs obtained from these surveys were entered into a facility-level supply-demand simulation model, which was used to project the impact of fee changes and other financing options on such outcomes as the quantity and type of services provided, service utilization rates, revenue by source, and facility costs.

The simulations showed that a simple fee-for-service policy (i.e., simultaneously increasing fees and reducing the percentage of non-paying clients) could be effective in recovering costs, but that it would lead to significant declines in utilization and would shift the burden of financing disproportionately onto individuals who became ill. Alternatively, social financing (e.g., a fixed tax per capita) was found to be as effective in recovering costs but without adversely affecting utilization. The model was also used to project the impact of the January 1994 FCFA devaluation, demonstrating that significant changes in financing and drug use (e.g., increased use of generic over specialty drugs and improved drug treatment protocols) would have to be implemented to forestall extremely negative devaluation impacts.

Social financing in Niger

Social financing was adopted in the Boboye district of Niger under the cost recovery pilot tests, and evaluated by HFS.

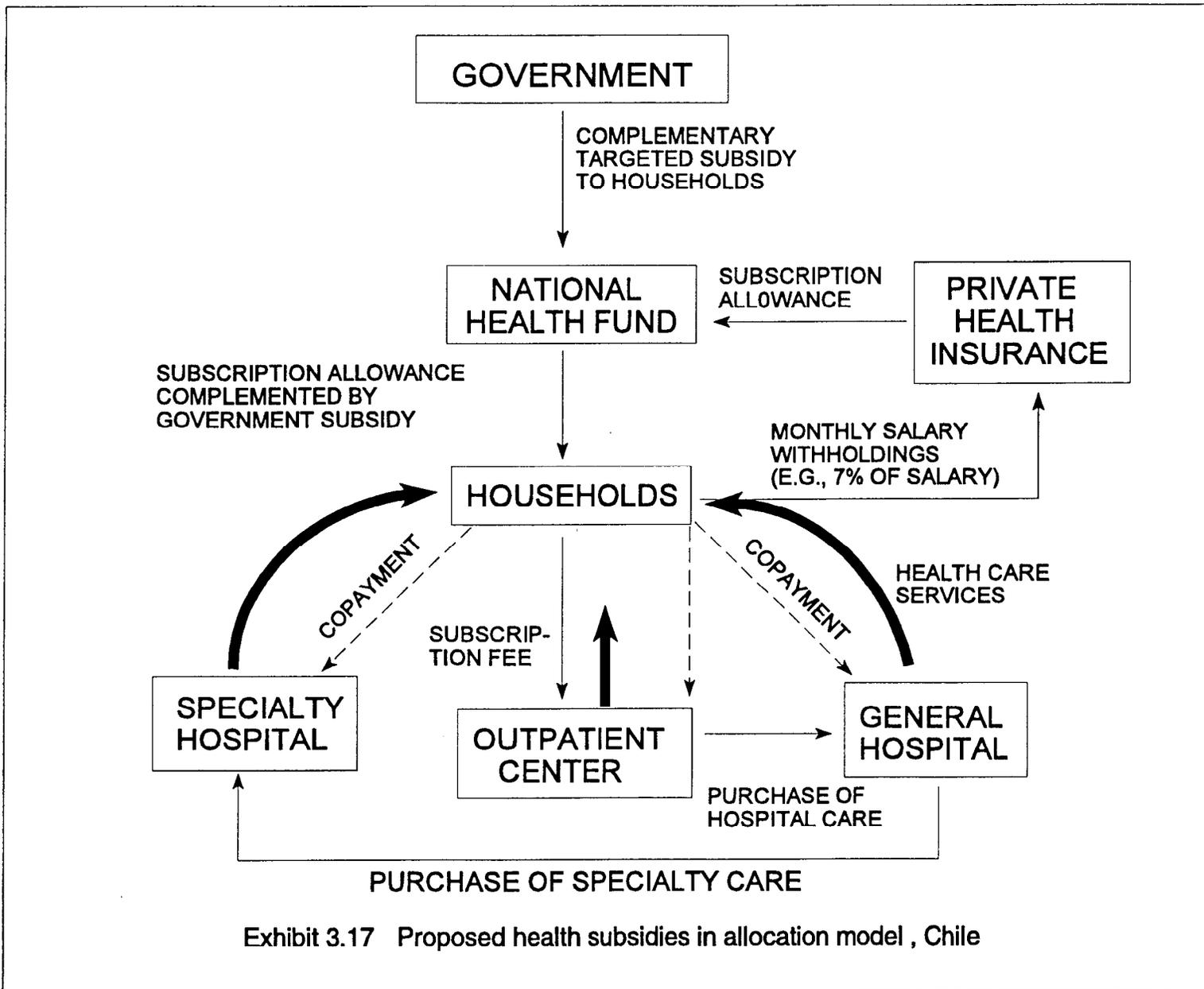


Exhibit 3.17 Proposed health subsidies in allocation model , Chile

Main findings from the evaluation are summarized in *Exhibit 3.18*.

Relative to the baseline, demand for new episodes of curative care in Boboye increased almost 40 percent while demand for visits grew by about 74 percent (*Exhibit 3.19*). Thus, under social financing more people sought care, and those doing so returned more often for follow-up visits. Possibly because of the rise in use of curative services and the improved public image of government facilities, utilization of prenatal services also increased in the tax district.

Owing to greater staff experience with diagnostic and treatment practices, per capita health care costs were lower in Boboye than in the fee-for-service district. This, obviously, was not a feature inherent to the financing mechanism, but instead is a technical consideration that should guide any future efforts aimed at cutting health care costs in Niger. As expected, administrative costs in the tax district were higher (by about a third) than in the fee district, although this had little incidence on total costs as management represented only 40 percent of all incremental costs in Boboye.

The tax system raised two-and-a-half times more revenue than the fee-for-service system. Combined with lower episode costs, this meant that cost recovery rates were significantly higher in the social financing district.

Finally, one year into the tests, individuals in both test districts were asked to tell which of the two methods they preferred (*Exhibit 3.20*). Over 80 percent of the respondents, in both the tax and the fee district, expressed a strong preference for the tax and copayment method. Although the insurance premium represented a modest share of per capita household income (1.6 percent for individuals in the poorest 25 percent of households), most respondents expressed a willingness to pay twice as much for health insurance the following year. The higher payment would help offset the negative effects on costs of the devaluation of the local currency.

The positive result of the social financing experiment in Boboye led Niger's policy-makers toward its broader national adoption. These leaders are aware, however, that the long-term sustainability of social financing in

Niger will depend on the provision of staff training and on the continued supervision of diagnostic and treatment practices—expensive activities whose cost has traditionally been funded by the government and donors. It will depend also on the availability of pharmaceutical products in sufficient quantities to meet the higher demand for services and on training and supervision for clerical staff. Government and donor funding will be essential for these activities. An upcoming and major challenge will be the integration of inpatient services into the social financing package.

Public-private differences in efficiency

Government remains the largest single provider of health care throughout the developing world. In an era of tight public budgets and expanding demands for quality services, it is essential that government health systems operate efficiently.

Yet a large and growing body of evidence from around the developing world, some of it presented in here, points to inefficiency in government health operations. In a major government hospital in the Dominican Republic, medical activities have been found to account for only 15 percent of government doctors' time (Lewis et al. 1990). It is presumed that public physicians devote a large share of their government-contracted hours to their private practices. Primary-level patients in Niger crowd into large secondary and tertiary public hospitals, while a lack of medical supplies has meant that primary care government facilities remain deserted (Becker et al. 1992). Inappropriate prescription practices by government medical employees in the Gambia hinder the financial performance of the revolving fund that pays for basic drugs and medical supplies in public premises (Tilney et al. 1992).

Some attribute inefficiency in government health services to a lack of accountability and incentives that pervades all government systems. They argue that the private sector is more efficient than the public sector in the production of health services, and that government reliance on private provision would help improve the efficiency and equity of public spending on health.

Exhibit 3.18 Evaluation of social financing in Niger				
OBJECTIVES				MAIN FINDINGS
CRITERIA	Equity	Efficiency	Sustainability	
Moral hazard		✓		<ul style="list-style-type: none"> ▲ Rise in demand for new episodes of care by almost 40 percent ▲ Rise in demand for total visits by 74 percent
Adverse selection	✓	✓		<ul style="list-style-type: none"> ▲ Not a problem due to mandatory enrollment
Cost escalation		✓	✓	<ul style="list-style-type: none"> ▲ Lower per capita costs in tax district attributable to improved efficiency in diagnostic and treatment practices
Access	✓			<ul style="list-style-type: none"> ▲ Mandatory enrollment ▲ Same for all households irrespective of ability to pay ▲ Inexpensive tax = 1.8 percent of total per capita expenditure for poorest 25 percent of households ▲ Increased use of health services among both poor and rich
Cost recovery capacity			✓	<ul style="list-style-type: none"> ▲ Two-and-a-half times more revenue raised by tax system than by fee-for-service system ▲ Cost recovery rates significantly higher in tax district
Administrative costs		✓	✓	<ul style="list-style-type: none"> ▲ Administrative costs = 41 percent of recurrent costs in tax district exceeding those in fee-for-service district by 29 percent.
Demand for social financing	✓		✓	<ul style="list-style-type: none"> ▲ Widespread preference for tax system in both health tax and fee-for-service districts ▲ Widespread willingness to pay higher tax
Utilization of preventive services		✓		<ul style="list-style-type: none"> ▲ Rise in use of prenatal services by 40 percent
Continuity of curative care	✓	✓	✓	<ul style="list-style-type: none"> ▲ Big increase in follow-up visits by patients, improving health care continuity

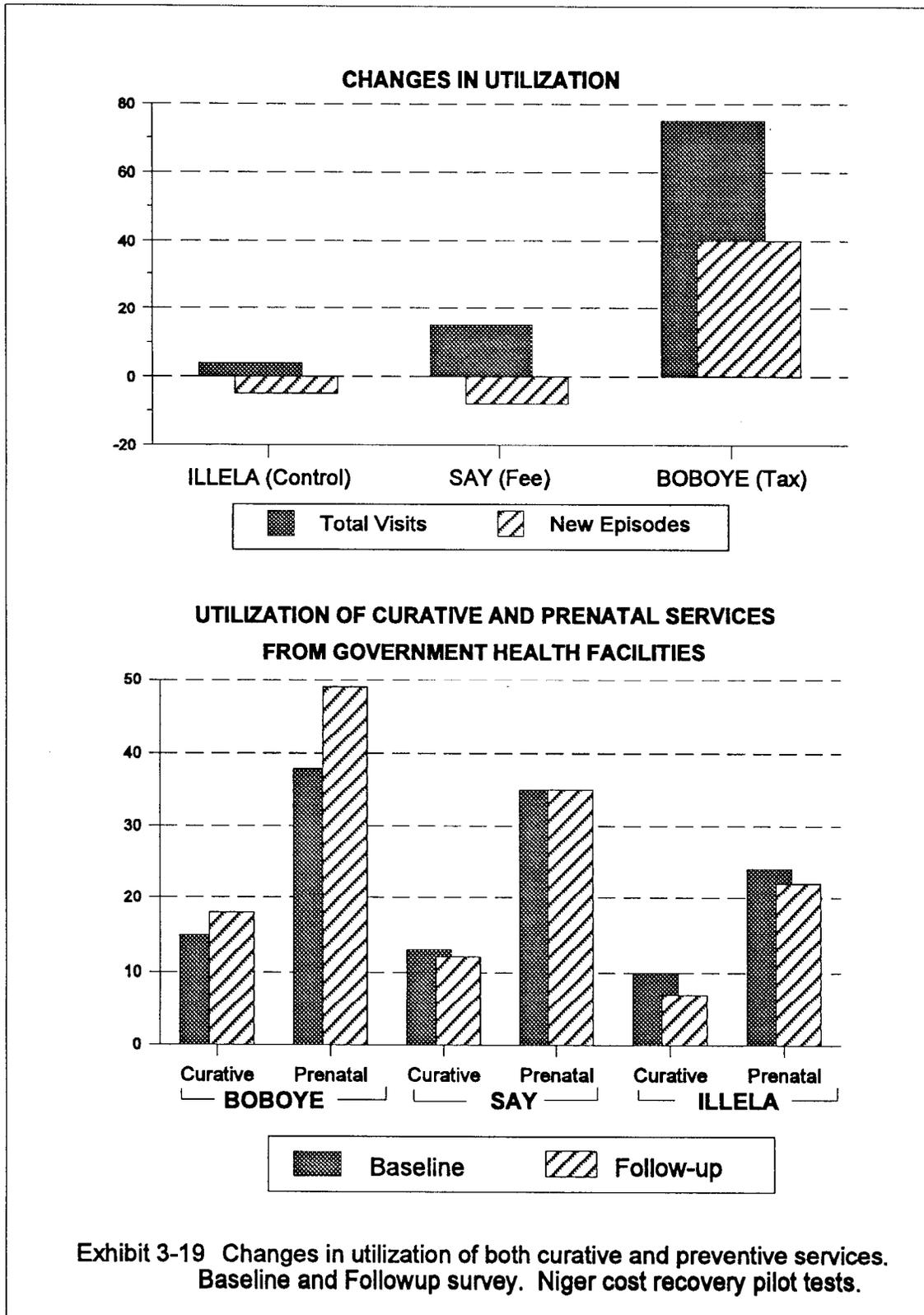
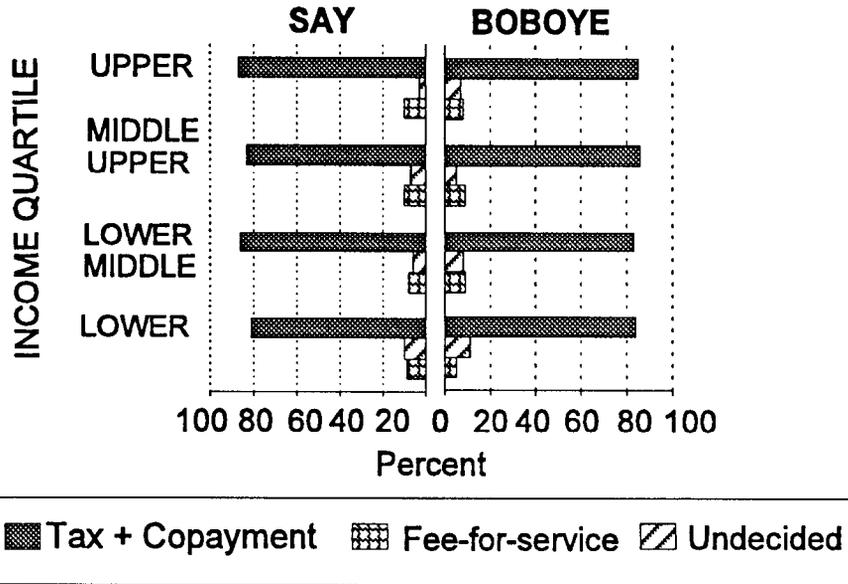


Exhibit 3-19 Changes in utilization of both curative and preventive services. Baseline and Followup survey. Niger cost recovery pilot tests.

NIGER COST RECOVERY PILOT TESTS

Proportion of households expressing preference for health insurance



Annual insurance premium as percentage of annual per-capita income

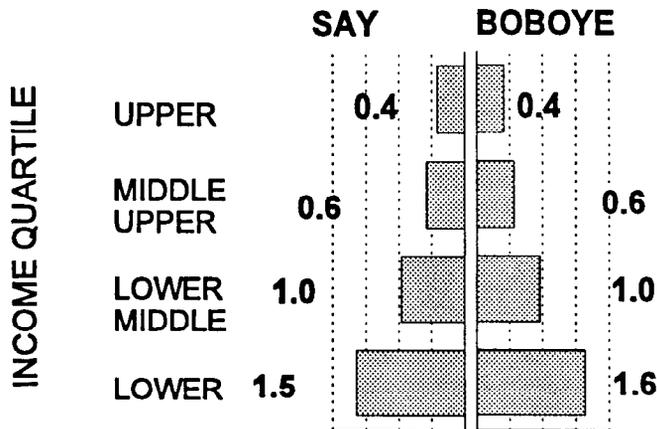


Exhibit 3-20 Cost and demand for health insurance, Niger cost recovery pilot tests

To study the question of relative efficiency of public and private providers, HFS undertook a detailed literature review in a Phase 1 paper on the subject (Bitran 1992). Although it found ample evidence of government inefficiency in health services, it obtained only scant information about the relative efficiency of public and private providers. In its review HFS found that only a handful of studies comparing public and private efficiency had been conducted in the developing world, and that most were plagued by data and methodological problems.

To explore empirically the question of relative efficiency, HFS undertook a comparative study of public and private providers in Senegal in 1992-93. An account of methods and findings is presented below.

Efficiency of public and private health care providers in Senegal

A nationally representative sample of government and non-governmental providers was drawn using a sampling frame developed earlier for a national household survey of income and consumption. In total, 95 government facilities and 57 private facilities from all five regional groups were included in the sample. Government facilities included hospitals, health centers, health posts, and health huts. Inpatient care was provided in health centers and hospitals only. All four types of facility delivered preventive and primary health care. Private facilities included Catholic health posts, private for-profit dispensaries, company-owned clinics, and "other" smaller providers (e.g., Red Cross and Muslim dispensaries).

Information on total cost, input prices, financing, pricing practices, utilization, and quality of care was obtained from each provider through a specially designed facility questionnaire. Quality of care information included availability and condition of production resources (such as labor, pharmaceutical products, equipment, vehicles, and facilities); medical staff compliance with previously defined standards of treatment for selected health problems; and staff and patient perceptions of quality. Provider efficiency was inferred by deriving unit costs of services and by combining this information with measures of quality.

HFS (Bitran, Brewster, Ba 1994a and b) found that most private providers offered better quality services than public providers. Private providers seldom experience ruptures of pharmaceutical stocks, were better endowed with basic equipment and medical supplies, and complied more closely with standards of treatment. Patient and staff satisfaction with care were significantly higher in the private sector (*Exhibit 3.21*).

Private providers charged prices that were higher than user fees in the public sector. In particular, prices of private for-profit dispensaries for inpatient services were 12 times higher than those in public hospitals and health centers. Catholic health posts charged the lowest prices among private providers, but they were still between 30 percent and 50 percent higher than public sector prices.

Productivity was considerably higher among private providers than among public providers. For example, a doctor working in a Catholic health post saw, on average, up to 45 ambulatory patients (both curative and preventive) in one day. In company clinics and in for-profit dispensaries, the equivalent figure was 23 and 15, respectively. In contrast, a doctor working in a government health center saw fewer than 4 ambulatory patients daily. Doctor productivity for inpatient care (three hospitalizations per day) was the same in for-profit dispensaries and in government health centers. Nurse productivity was also highest in the private sector.

Compliance with treatment norms was highest among private providers and therefore the higher output rates observed among them did not seem to be the result of lesser attention to medical practices. To the contrary, they appeared to reflect greater technical efficiency in the use of medical labor.

Unit costs of hospitalizations in government hospitals and health centers were about one-fifth those of private for-profit dispensaries and company clinics (about US\$300 per discharge in the latter two). Government ambulatory facilities and Catholic posts had approximately the same unit costs for outpatient curative and preventive care (\$1.10 per visit). Other private providers exhibited significantly higher unit costs for ambulatory care.

Exhibit 3.21 Assessment of quality of public and private facilities in Senegal								
ISSUES	PRIVATE PROVIDERS				GOVERNMENT PROVIDERS			
	Catholic posts	Company clinics	For profit	Other	Hospital	Health centers	Health posts	Health huts
QUALITY OF CARE								
Availability of drugs ^{&} (% without stockout)	100	80	100	55	—	80	80	60
Availability of medical supplies ^{&} (% without stockout)	100	98	100	65	—	90	75	65
Medical behavior for fever consultation (% treatment satisfactory)	80	90	100	90	60	75	80	40
Medical compliance with general procedures (%)	75	60	80	65	—	50	50	—
Patient quality perceptions (% patient satisfaction)	75	70	75	80	65	75	75	75
Staff quality perceptions (% rating quality as "good")	79	74	93	26	24	23	33	24

Aside from Catholic health posts, other private providers refused to disclose revenue information. It is presumed, however, that since the latter do not receive any subsidies, they self-finance through user fees. On average, Catholic posts were able to recover 95 percent of their recurrent costs from user fees, with the remainder coming from smaller private gifts and subsidies. Except for the minute health huts, government health facilities exhibited significantly smaller cost recovery rates, varying from a low of 8 percent in public hospitals to a high of 28 percent in health posts.

The Senegal study was an expensive undertaking, as it required a large data collection effort, particularly for the measurement of quality of care. However, the study was valuable because it provided policy-relevant information on several fronts. First, the study showed that, at least in Senegal, the private sector includes a heterogeneous set of providers. Speaking about the private sector as a unique and uniform group of providers is misleading from a policy viewpoint. A single government policy may have different effects on the activities and performance of the various types of private providers that operate in Senegal.

Second, the study showed that Catholic health posts are significantly more efficient

providers of ambulatory services than public providers. They have equal unit costs but significantly better quality than public facilities. By relying more on provision of health services by Catholic health posts, the government might achieve important savings. For this to be feasible, however, Catholic posts would have to be interested in such a collaboration. Further, appropriate mechanisms for the government to reimburse Catholic posts for the services provided on its behalf would have to be found. And the cost of these mechanisms would have to be lower than the cost advantage of Catholic posts. Finally, reimbursement methods should be designed to provide the right incentives to Catholic posts so that they would preserve their cost advantage over government production. Designing such mechanisms is an analytical challenge that should be addressed through applied research and technical assistance.

Growth of private providers like Catholic posts would help diversify the supply of health care services in Senegal, thereby promoting competition. A larger private sector could help improve accessibility to quality services in Senegal thus improving health status and the effectiveness of government health spending.

Private sector potential for the delivery of health care in Africa

Growing demands on limited government resources for health care have generated interest in identifying opportunities for public-private partnerships in the health sector. Such partnerships are explored as one way to use existing resources more effectively and thus increase and improve the availability of health services for developing country populations. HFS conducted studies on this topic in Tanzania (Munishi et al. 1994) and Senegal (Knowles et al 1994). Both studies examined the size and scope of existing private sector providers; any linkages between the public and private sectors; and factors that affect development of the private sector in health, such as laws, regulations, taxes, and finance. In both countries, researchers relied extensively on secondary sources of information available from existing surveys, reports, and government statistics and then conducted random sample or qualitative surveys of private providers and patient interviews.

In Tanzania, where the government has made private sector development a cornerstone of its health sector reforms since the early 1990s, the study found a wide array of for-profit and non-profit private providers. Church-based and voluntary agency providers have traditionally played a large role in health care throughout the country. The liberalization of laws concerning private providers caused an explosion of independently owned private facilities, particularly in the capital area of Dar Es Salaam. This increase in private providers has raised the need for a diversification of regulations and a stronger quality assurance role for the government. But it also signifies great potential for expanding access to health services, particularly for curative services. Furthermore, the study found that employer-based providers were relatively neglected by current reform efforts.

Regarding the impact of private sector development on public sector reform, data from Tanzania illustrate that the development of private alternatives to public health care can have both positive and negative effects on a government's goals for reform. Two situations common to many other countries are highlighted in the study, namely, public and

private sector competition for paying patients and competition for health personnel.

In contrast to Tanzania, the private sector's potential contribution to the public health agenda in Senegal is more limited in the short term. With the exception of the Catholic health posts found in rural areas, most private facilities are located in and around the capital, Dakar, and the prices charged by for-profit facilities are quite high. Private providers tend to offer primarily curative care. The limited size of the salaried work force constrains the growth of private and social insurance. The Catholic church is the most important private, non-profit source of public health services but is unable to provide certain types of services such as modern contraceptives. Despite these constraints, the study authors did conclude that the private sector in Senegal must be enlisted to help promote public health goals in urban areas experiencing a rapid influx of migrants from rural areas.

Economic impact of malaria in Africa

At the express request of USAID's Africa Bureau, a study of malaria's economic impact with a particular focus on economic productivity and output (Leighton et al.) was added to the HFS Major Applied Research Agenda. The study was needed to support an area of emphasis in the Development Fund for Africa Action Plan.

Although the most serious health threat from malaria is mortality for infants and children, one of malaria's most immediate economic impacts derives from morbidity that causes people to miss work because they or their children are suffering from the disease. This research was designed to collect some field-based data to confirm assumptions or extend the analyses of other recent studies (Shepard et al. 1990, 1991; Ettlign et al 1993). Field research was conducted in Nigeria and Kenya. The study provides estimates and analysis of selected aspects of the short-run economic impact of malaria using a rapid assessment methodology. It concentrates on estimating one key aspect of the economic impact that is among the least documented with field evidence: the annual lost production due to morbidity of workers suffering from Malaria episodes and due to workers' taking care of infants and children afflicted with the

disease. The study estimates these malaria-related production losses at the national gross domestic product (GDP), sectoral, and household levels, as well as for urban and rural populations and for men and women. In addition, the study estimates health costs for malaria treatment and control at the household level, though not at the national level.

In Kenya, the MOH estimates that malaria accounts for 30 percent of all illnesses nationwide. Malaria is endemic in most of Kenya, and morbidity and mortality rates have increased in recent years largely due to chloroquine-resistant malaria. In Nigeria, malaria is endemic throughout the country, though seasonality varies, particularly between the northern and southern regions. It is the leading cause of death in children.

Findings from this study suggest three important characteristics about the economic impact of malaria. First, it confirms the findings of other studies that show malaria to have a substantial economic impact for a single disease, primarily because a large part of the population experiences several episodes of illness per year. The total annual value of malaria-related production loss—due to lost workdays and low productivity days—represents between 2 percent and 6 percent of GDP in Kenya and between 1 percent and 5 percent in Nigeria.

Second, the magnitude of the economic impact is different at different levels of the economy and is stronger in some sectors than others: stronger at the sectoral level than the national, and most severe at the household level.

These impacts also vary across countries. In Kenya and many African countries it is likely to have its biggest impact in the agricultural sector where most of the population works. In countries structured similarly to Nigeria, where the distribution of the labor force is more complex, malaria's economic impact may be equal to or greater in sectors other than agriculture. Third, the impact of lost production from malaria cannot be easily predicted based only on the importance of each sector to the national economy.

For example, in Kenya the annual lost production due to malaria morbidity in rural areas is almost 40 percent higher than lost production in urban areas. In Nigeria, the rural-urban distribution is reversed. At the household level, the total impact of lost income and health care costs for malaria morbidity could amount to between 5 percent and 18 percent of household income in Kenya and between 5 percent and 19 percent in Nigeria, depending on the socioeconomic level. Because of their dual role as worker and caretaker, working women in Kenya lose four times, and in Nigeria from five to seven times, as many workdays as employed men.

Other findings confirmed by this study demonstrate that the incidence of what the population perceives as “malaria” and what is presumptively diagnosed as “malaria” in health facilities is substantially higher than estimates based on laboratory-confirmed or clinical cases. Finally, estimates of caretaking costs must be included in assessments of the economic impacts of malaria and other diseases in sub-Saharan Africa.

C H A P T E R 4

Conclusions: Implications for Policy and Applied Research

This chapter builds on HFS research findings to draw conclusions for policy and for future research. Results are organized under the project's main research areas, and a summary of suggested topics for future research is presented in *Exhibit 4.2*.

Quality of care

HFS research identified several quality-related problems in government health systems. Main problems are the lack of drugs, medical supplies, and equipment and inappropriate medical practices. These findings are not new to the HFS Project and have been identified repeatedly elsewhere. However, although not always supported directly by current HFS research, the apparent causes of the problems, the reasons that they persist, and possible solutions are worth discussing.

The lack of drugs appears to stem from five main causes:

- ▲ inadequate supply systems
- ▲ failure to use generic essential drugs
- ▲ poor prescription practices by health staff
- ▲ inappropriate management of drug inventories
- ▲ insufficient financial resources to pay for drugs

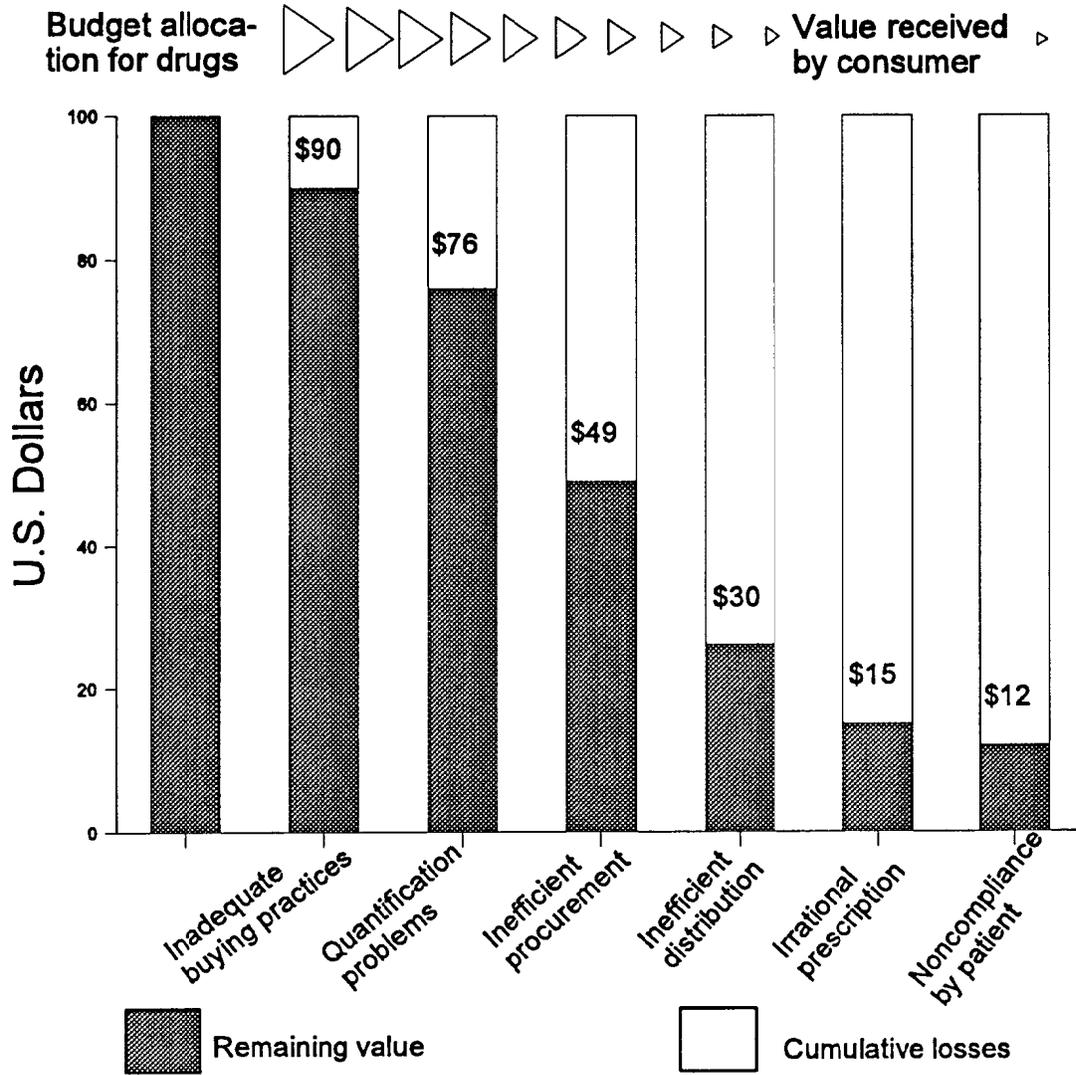
The first three causes and the inefficiencies that they bring about, are discussed by the World Bank (1994) and are illustrated in *Exhibit 4.1*.

Drug supply systems and the market for pharmaceuticals

Most poor developing countries maintain centralized and monopolistic government agencies that purchase and distribute drugs to public facilities. This was the situation in most of the countries where HFS carried out applied research or undertook technical assistance.

These agencies typically function inefficiently and unreliably. In addition, corruption often arises, owing to the lack of control they are subject to in the administration of large budgets. The persistence of these institutions seems to be based primarily on the power that they confer to the people who run them. Development agencies have generally been reluctant to tackle this problem—possibly because of its sensitive nature—and to help developing countries set up more reliable and efficient systems for importing and distributing these essential products.

For example, Barbados—a very small upper middle-income nation—has a centralized government monopoly that imports drugs, but which relies on a network of private for-profit distributors to get the drugs to public facilities and to private pharmacies. Economic considerations should dictate the most appropriate market structure in each case. For example, the presence of significant economies of scale at large volumes of output in the importation and distribution of



Adapted from World Bank (1994) *Better Health in Africa*.

Exhibit 4.1 Inefficiency and waste in the supply of drugs

pharmaceuticals would imply that a government-regulated natural monopoly would be the most economically appropriate solution. In the absence of such economies, there does not appear to be an economic rationale for a large government monopoly. Decision-makers in Barbados probably have concluded that economies of scale exist for the importation of products, but not for distribution.

In Barbados and many other countries, there are many options for organizing nationwide pharmaceutical markets to better serve demand. To guide the necessary political decisions, these options should be explored through research and technical assistance.

Generic essential pharmaceuticals policy

Many developing countries have not yet adopted policies that mandate the use of generic essential pharmaceuticals in government health systems. Many others have adopted such policies but, as HFS discovered, have not enforced them. Use of generic essential products can significantly lower drug costs in government health systems. Following the 50 percent devaluation of the FCFA—the currency used in most of Franco-phone West Africa—in early 1992, HFS held a seminar in Senegal where the impact of this devaluation on the cost of drugs was discussed. HFS staff demonstrated that if generic essential pharmaceutical policies were adopted and tightly enforced, the resulting savings would more than offset the negative cost effects of devaluation.

Failure to adopt or enforce generic essential pharmaceutical policies may be explained by the power of multinational pharmaceutical firms that seek to maintain contracts with government agencies, to sell them the more expensive—but equally effective—brand name products. Development agencies should continue to carry out research and technical assistance in the pharmaceutical sector, to illustrate the benefits of more appropriate pharmaceutical policies and to promote, where feasible, alternative policies and arrangements for the supply of drugs.

Prescription practices and drug inventory management

HFS research shows that major gains in both productive efficiency and in effectiveness of health care can be achieved through investments in training and supervision of health staff. In Niger, where health staff were trained in standard diagnostic and treatment protocols, and where drug management systems were introduced, efficiency improved in an important way: the average cost of a prescription in the district that received the training and supervision over a four-year period was half the cost of an average prescription in the district that had just started to train its staff. The research also showed that achieving such gains is a long-term process that requires periodic supervision and refresher training. Given the large volume of drugs consumed in government facilities, and the extent of the inefficiency observed, a project of training and supervising staff in this area is likely to pay for itself in terms of lower prescription costs and more effective treatment. However, users should not be expected to pay for such investments through cost recovery, as the evidence shows that user fees can at best recover the cost of drugs and the incremental costs associated with the management of drugs and cash. Governments should make the funds available, on a continuing basis, to finance those necessary activities.

Research on quality assurance currently underway (e.g., USAID's Quality Assurance Project) and additional research should help illustrate the gains achievable through training and supervision for improved diagnostic and treatment practices and inventory management. This information should be used to encourage governments to invest in what is likely to be a highly cost-effective project.

Some policy-making lessons learned in the field

In the process of executing the SAR and MAR projects listed in *Exhibits 2.3 and 2.5*, HFS research showed that policy development could be furthered, demand better served, and significant savings achieved by:

Paying for pharmaceuticals. HFS research found that cost recovery may suffice to cover the cost of essential drugs to treat ambulatory patients. In Niger, again, revenue from a coercive, earmarked health tax levied on all tax-paying adults more than covered the cost of

drugs dispensed to patients. In a nearby district, however, a cost recovery system based on user fees generated only enough revenue to cover half the cost. This is not a surprising finding, as taxes are paid by all whereas fees deter demand and are paid only by those that obtain services.

Evidence from other countries (Nolan and Turbat 1993) indicates a wide range of cost recovery rates for drugs, from very small percentages to full recovery. Results from the UNICEF-backed Bamako Initiative in Africa demonstrate that user fee revenue can pay for most of the cost of essential drugs. Possibly the most important factors leading to high rates of cost recovery are the use of appropriate drug- and cash-management systems, the proficiency of medical staff in diagnostic and treatment practices, and the use of generic essential pharmaceuticals.

How to structure cost recovery. There has been a fair amount of discussion among practitioners and in the literature about how to structure cost recovery, i.e., which cost recovery system to use, how much to charge for various health care services if fee-for-service is the system to be adopted, how much to charge to different groups of consumers, based on income, age, gender, and other considerations. The following discussion of these issues is based on experience that HFS gathered from its research, as well as from the experience of HFS researchers elsewhere. Before drawing conclusions from HFS Project research, however, it must be emphasized that few of these questions can be answered by generalizations, because the most appropriate system to use in each situation often depends on local conditions.

Fee-for-service versus insurance. HFS studied two main types of cost recovery systems: insurance (including prepayment) and fee-for service. In much of sub-Saharan Africa where HFS carried out research, in Asia, and in Latin America and the Caribbean, fee-for-service has been the main system encountered. This may be because it is easy to implement and in Africa it was the method originally promoted by the Bamako Initiative (lately the Initiative has begun to recognize insurance as another option for cost recovery). A first advantage of fee-for-service, then, is that it can be understood more easily by the

population and decision makers, and can also be implemented with greater ease. A second advantage is that it involves fewer financial risks: cash proceeds are usually reinvested monthly in drugs, thus reducing the chances of large financial losses from embezzlement or from loss of value due to inflation. A disadvantage of fee-for-service is that fees dissuade demand, with greater effect among lower income individuals. Thus, though better than a system of poor-quality free services, a system of user fees may be financially inequitable unless implemented with rules for exempting individuals unable, or with limited ability, to pay.

The pros and cons of insurance generally mirror those of user fees. Successfully adopting an insurance system requires the trust of the population: the belief that the system will deliver services in the future in exchange for an up-front payment. Since government systems in need of cost recovery malfunction (due to a lack of resources, among other things), people often hesitate to invest a sizable amount of money in premiums. The feasibility of an insurance system also depends on the population's ability to produce the cash required to pay the premium.

Insurance requires a mechanism for investing its financial proceeds to prevent loss of value with inflation and theft. Financial markets seldom exist or function adequately in the poorest nations, especially in rural settings, thus making this requirement hard to meet. Premium proceeds could in principle be invested in drugs, but in practice this is not always possible as some drugs expire prior to a year or because government agencies in charge of supplying products can hardly meet a year's supply at once.

Insurance also requires mechanisms to recognize beneficiaries and to exclude non-beneficiaries from the benefit. It also needs actuarial skills to anticipate demand and costs, and thus to appropriately set up premiums.

A disadvantage of insurance is the potential for adverse selection—the greater propensity to enroll by those anticipating greater-than-average health problems. An advantage of insurance is that it protects people against financial loss from health events. Another, is that it usually reduces the out-of-pocket cost of care to consumers (the

copayment), thus mitigating the negative equity implications of fees. But this is also a double-edged sword, as low fees may result in spurious demand or in demand too high for the system to meet. These two effects increase health expenditure and the likelihood of systemic bankruptcy.

Whether a fee-for-service or an insurance system should be used depends on factors including:

- ▲ the population's preparedness to purchase premiums
- ▲ the managerial capability to collect premiums and administer benefits
- ▲ the existence of mechanisms to invest insurance proceeds

In the poorest countries, the pervasiveness of fee-for-service and the rarity of insurance suggest that the conditions required for an insurance system are seldom present. Applied research and technical assistance are required to help governments and communities determine which system best suits their needs and fits within their existing constraints.

In Niger, both systems were tried, with HFS assistance. Owing to the cooperation of local authorities, the population accepted an insurance system. The premium was an earmarked health tax on all tax-paying adults. This arrangement meant that, despite the low household income—one of the lowest in the world—all produced the funds to pay the tax. However, the tax was the same for all households, irrespective of income, making it regressive. Financial access to services was more equitable under the tax system and, due to its mandatory nature, the funds it mobilized were higher than under the fee-for-service system. Adverse selection was avoided through compulsory enrollment. Management requirements were met through extensive outside technical assistance. Funds were kept by a regional authority.

Social financing rated better than fee-for-service in Niger, as it made access to care more equitable and it achieved full cost recovery. As countries evolve, most eventually choose some kind of risk-sharing mechanism to pay for health services. Risk sharing comes in the form of government-funded social insurance or compulsory health taxes to finance either social security or

private insurance. Although most poor countries have a social insurance system—the network of government health services—it usually functions poorly due to insufficient resources and poor management. To be consistent with the developing nations' equity objectives, social financing should also be recommended in poor countries. Where it is not possible because one or more of the conditions required by insurance are not met, user fees should be promoted as an alternative.

Whether or not a tax + copayment experience (like in the test district of Boboye) can be replicated elsewhere in Niger and in other poor nations depends on a number of variables. What is clear, is that implementing insurance anywhere in poor countries will likely require considerable amounts of external technical assistance. Future projects like HFS should focus part of their attention on this question.

How much to charge, for what services, and to whom? Fee-for-service versus insurance is only one of several questions formulated above regarding how to structure cost recovery. If an insurance system is chosen, what is the appropriate premium and copayment? If fee-for-service is implemented, what are the right levels of fees? The answer to these questions can only be found empirically, taking into account local circumstances. HFS was involved in a number of projects that examined these questions (e.g., Belize, Burkina Faso, Central African Republic, Egypt, Niger). Where a fee-for-service system was developed, fees for curative services were generally set equal to marginal cost (the cost of drugs and supplies dispensed to patients) to make the system economically efficient and financially sustainable. But there are economic reasons why fees for some curative services should depart optimally from marginal cost. For example, the treatment of tuberculosis or venereal diseases should be subsidized owing to the negative externalities that these ailments bring about through transmission. Curative services may also be subsidized for equity reasons or to promote demand that is low due to underappreciation of the benefits of care.

Most preventive services should be subsidized in developing countries (and elsewhere) because of under appreciation of benefits and

externalities. HFS found everywhere that, aside from nominal fees that had no revenue significance or sizable demand impact, pricing practices for preventive services complied with the above principle (China is an exception, as significant fees are charged for preventive services).

Fees for curative services may also be set differentially by age group and, conceivably, by gender. Reduced fees should be set for children who have weaker immune systems and who should be encouraged to obtain services more often than adults. The practice generally observed by HFS, and the advice it gave, coincided with this principle as well. Finally, reduced fees should be set for women who may have more constrained access to cash in some societies, and thus may be less able to pay for health services than men.

Cost recovery and health system rationalization. Cost recovery is promoted not only for its revenue-raising ability but also for its capacity to promote rational demand for services. Referral fees can help discourage patients from bypassing lower level facilities for hospitals, a practice that impairs the efficiency of the system. Differentiation of fees—charging higher fees for services with a small health return and lower fees for services with a high health payoff—helps to promote appropriate demand.

Because cost recovery in ambulatory facilities is often adopted separately from cost recovery in upper level facilities, the potential for benefiting from referral fees is often missed. Also, user fee systems are usually extremely complex in hospitals but too simplistic in ambulatory settings, thus missing a chance for more thought-out yet simple fee schedules that can promote more efficient demand. Integrating the cost recovery policies of ambulatory and upper level facilities into a single, coherent policy should be a priority, as should be the development of improved pricing systems.

Which health services to insure? The demand for health insurance is driven by the desire of risk-averse individuals to protect themselves against losses due to sickness. Yet with a few exceptions (see Shepard et al. 1990 for the case of Bwamanda in Zaire) in poor nations where health insurance is being developed, it often is provided exclusively for ambulatory care, and only rarely for the more

expensive hospital care. Of course, health insurance for ambulatory care only should not be discouraged by technical advisers on the grounds that it makes no economic sense. It does make sense as it involves risk sharing and it seems popular wherever it has been tried. Indeed, in the Niger pilot test, all three participating districts expressed a strong preference for the insurance system.

There are several possible explanations why hospital health insurance is seldom found in lower-income nations, particularly in sub-Saharan Africa:

- ▲ Providing hospital insurance is technically more complex than fee for service.
- ▲ Hospital insurance may be harder to sell to the population given the relatively high up-front premium and people's greater fear of losing their money due to non-performance of the government hospital system.
- ▲ Government hospitals in developing countries, though often functioning poorly, do provide a number of services with a good degree of success and usually free of charge. Cultural prejudice against investing a large amount of money in anticipation of an unlikely future event may discourage people from obtaining insurance to pay for better services.

If health insurance systems are to be developed, they should be comprehensive including both ambulatory and inpatient benefits as well as both curative and preventive services. Comprehensive insurance can improve systemic efficiency by managing interactions (referrals) between lower and higher levels of the delivery system, and between preventive and curative services. Installing comprehensive systems poses a much greater technical challenge to developing-country governments and communities. Future HFS-like projects should be prepared to provide such support, not only because of the technical complexities but also because of the prospect that these arrangements offer to restructure the financing and operation of government health systems.

Efficiency implications of poor-quality government services

Patients have to incur substantial travel and treatment costs in the private sector when government care is deficient. In Belize and Niger, patient costs outside of government services

accounted for over one-half of their total treatment expenditures.

In addition, poor quality of curative health services can have negative spillover effects on preventive activities, where demand seems to be influenced by the population's overall perceptions of facility quality. When the quality of curative services improved in Niger, demand for prenatal services also grew by 40 percent, about as much as the increase in demand for curative care.

Poor-quality care reduces the effectiveness of the health system and the efficiency of government health spending. The lack of appropriate drugs, vaccines, and other medical supplies, irrational drug prescription practices, misdiagnosis, and poor communication with patients all result in low system effectiveness. In particular, the lack of basic drugs means that many health problems—including diarrhea, acute respiratory infections, malaria, and intestinal parasites, all problems that account for most of the disease burden in the poorest countries—are not treated appropriately.

Cost recovery and equity

Research showed that the current system of poor-quality government services offered at no direct charge to patients is inequitable.

Equity implications of poor-quality government services

Inequity results from constrained financial access by the poor to private, paid care necessary to complement or replace deficient government services. Data from Belize, Burkina Faso, Central African Republic, Congo, Ecuador, and Niger showed that household health care expenditures increased with income. Lower expenditure by the poor was the result of either lower consumption of services, or use of less expensive and lower quality services.

HFS obtained evidence that the quality of government-provided health care is deteriorating in some countries, with a resulting decline in utilization. The adverse effect of declining quality and utilization on health status may be particularly felt by the poor who have relatively less access to alternative sources of care. In Niger's Illéla district, use of government health services dropped significantly over a one-year period, for the

population as a whole and for specific population groups, like children under 15 years of age, women, villages without a government health facility, and the poorest 25 percent. These trends emphasize the urgent need for reform of government health systems.

Willingness to pay for quality improvements in the public sector

Survey analysis and focus group work in Burkina Faso, Belize, Fiji, Central African Republic, Niger, and Senegal showed that willingness to pay for quality improvements in government health services was high among all population and income groups. In all cases, reported willingness to pay significantly exceeded the cost of needed quality improvements. Validating these results, analysis of actual patient health expenditures in Belize and Central African Republic showed that actual patient treatment expenditure in the private sector exceeded the cost of quality improvements needed in public facilities.

Equity implications of user fees

User fee revenue permits substantial quality improvements and enhances access to quality care by the poor. Thus, a policy of user fees for curative government services can be more equitable than one of free provision of poor-quality care. However, as evidence from Niger shows, even modest fees may pose a financial barrier to access by the poorest, thus limiting the equity gains associated with the quality improvements. Systems for exempting patients based on ability to pay are necessary to mitigate the negative equity implications of fees.

User fees and exemption policies have been poorly implemented. In Congo, where user fees have been in place in public facilities for several years, exemptions were not granted on the basis of ability to pay. In Niger, the exempt were population subgroups that did not have the least ability to pay.

But effective mechanisms for exempting the poor from payment will not fully eliminate utilization gaps between the poor and the non-poor. Inequity in physical access, as well as differences in socioeconomic and demographic characteristics, are also responsible for differences in use of services. In Niger, large gaps in utilization of government health services

were present among various population groups, even in the absence of user fees. Differences in physical access and in education appeared to be responsible for differences in utilization rates among population groups.

Means testing as a tool for identifying ability to pay for health services

Means testing has been adopted in a number of countries to identify and exempt from payment patients with limited ability to pay. Unfortunately, documentation and evaluation of means testing programs has been sparse. Means testing programs are worthwhile only as long as identifying patients entitled to exemptions costs less than losses in terms of leakage of benefits to the non-poor. Leakages of government subsidies to the non-poor cannot be fully eliminated because of the increasing costs of screening for ability to pay. Evidence on the large magnitude of misdirected subsidies, however, suggests that reducing leakages should be cost-effective. But finding socially acceptable and inexpensive mechanisms for identifying ability to pay remains a major challenge.

Many means testing programs studied are badly designed, poorly implemented, and lack staff incentives for appropriate enforcement. In Belize and the Dominican Republic, poor enforcement of means testing is manifested in arbitrary criteria for determining ability to pay and eligibility, inconvenience to patients, and inconsistency in the granting of exemptions. In Kenya, on the other hand, where user fees constituted the sole source of facilities' revenue, exemptions were tightly controlled and seldom awarded.

Few apparently successful means testing programs have been carefully designed and implemented. Korea's centrally-run system (which determines three levels of subsidies and awards interest-free loans to finance costly medical bills) appears to be worthy of replication.

Equity definition and measurement

Equity is among the most important yet least understood concepts in health care policy research. A review of the literature reveals that only a handful of authors have attempted to define equity in health and that even fewer have applied those definitions to the empirical mea-

surement of equity. Developing clear definitions of equity that can be empirically tested should be a priority for health system researchers

Equity and targeting government subsidies

Armed with a workable definition of equity, assessing how equitably government resources are being spent should be a priority analytical effort.

Efficiency in consumption

That health resources should be targeted toward interventions that provide the greatest health gains per dollar spent is a main message of the World Bank's *World Development Report 1993*. For efficiency and equity reasons, the Bank recommends a basic package of cost-effective services for all, paid for from government general revenue funds.

An apparent implication of this recommendation—that offering such services will suffice to achieve appropriate levels of consumption of cost-effective care—is not necessarily true. Policy makers have generally tried to adjust supply to solve the problem of under consumption of curative and preventive services. Yet mounting evidence suggests that to encourage use of cost-effective services, *demand* needs more attention.

Low use of preventive services is partly the result of poor consumer knowledge about the benefits of care. In the Central African Republic and Niger, the rate of institutional deliveries remains below 30 percent because of low demand. Thus, despite appropriate infrastructure to assist deliveries in maternities, demand remains low and maternal and infant mortality rates high. In Zaire, AIDS prevention efforts have been obstructed by misconceptions about the spread of the infection. In Malawi, misinformation led pregnant women in to refuse to take chloroquine as an anti-malarial prophylaxis.

Policies to promote effective demand for health services—including consumer information, community involvement, and appropriate incentives—must be incorporated in health system planning and program design.

Provider incentives

A lack of appropriate staff incentives is partly responsible for inefficiency in government health services. This inefficiency takes many forms. In the Gambia, medical staff over prescribed medicines to reduce the chances of misdiagnosis, a practice that patients welcomed. In the Dominican Republic, government doctors, who received fixed salaries irrespective of performance, were found to work only a small fraction of their contracted hours. Evidence from Benin, Bolivia, Guinea, Puerto Rico, and Zaire shows that when financial or other incentives are introduced in government systems, staff behave more efficiently.

New efficiency incentives to government health staff must be designed to avoid unintended effects such as reducing financial access to service or lowering the quality of care. Achieving an appropriate balance between equity and efficiency objectives is a challenge. Incentives can take many forms, for example, changing the mechanisms for transferring government financial resources to public providers, from the current fixed budgets to allocations that reward the provision of efficient and good-quality services. Most health sector staff incentives studied in the government sector were financial and functioned under a system of user fees. In Zaire and Kenya, where staff income was tied to cost recovery revenue, exemptions were seldom granted to patients. Although it may reduce abuse and the leakage of benefits to the non-poor, this kind of incentive leads to reduced access by the poor, making the system of user fees inequitable.

The idea of adopting more flexible and creative hiring and compensation practices for government health staff has been confronted by the argument that no change in policies is possible in any sector unless the entire civil service code is changed. So formidable is this challenge that the initiative in the health sector is often withdrawn. However, the increasing trend in some countries toward the decentralization of government health services has improved the prospects of introducing new personnel incentives.

HFS found abundant anecdotal experience that incentives were being used in government health systems in many places but little documented evidence about their use. Further, only

a few of those sources measured the gains from incentives and their associated costs. Documenting and evaluating existing incentive systems, and helping to develop new and better ones remains a priority area for both technical assistance and applied research.

Reallocation of public sector spending

HFS did not explicitly study how government health resources are allocated but nevertheless observed evidence of inefficient allocations. The pharmaceutical sector, discussed above, is one example. In another, resources are devoted to maintain an obstetrical service and preventive care for mothers and children, but not enough resources are allocated to promotional activities to boost demand for such services. Likewise, a significant share of government resources are allocated to personnel salaries and too little to personnel training. And a high share of resources goes to treat health problems with low cost-effectiveness and too little to more cost-effective health interventions.

The equity of resource allocation as well as its efficiency should be studied. HFS found evidence of inequitable allocations of government resources in most countries where it carried out applied research. Government subsidies were not benefiting the people who most needed them, poor rural residents, because a disproportionately large share of resources is devoted to providing services in urban areas.

A main premise of the HFS Project, as well as one shared by other agencies (see, for example, the World Bank's *World Development Report 1993* and *Better Health in Africa*) is that larger gains in health status could be achieved within resource constraints if resources were allocated more appropriately. Thus, future technical assistance and research efforts in this area should seek to:

- ▲ gauge the equity and efficiency implications of current allocations
- ▲ assess the potential gains in equity and efficiency from improved allocations
- ▲ identify concrete mechanisms and strategies that will make reallocation possible.

Extension of social financing

Social financing, though still rare in the poorest nations, is becoming an increasingly common government and community health financing practice. Many developing countries have expanded, or are in the process of expanding, social insurance. To this end they have adopted numerous strategies, going from countrywide incorporation to a centralized social security administration, to decentralized, community-level initiatives that take advantage of public provision of services and local collection of premiums.

Social financing at the community level can generate a significant amount of resources to finance quality improvements in government health services, as has been found in Guinea, Niger, and Zaire. In both Guinea and Niger, cost recovery from premium payments sufficed to recover the entire cost of drugs at the ambulatory level. In Zaire, insurance premiums helped finance a sizable share of hospital costs.

All experiences reviewed showed that adverse selection, moral hazard, and cost escalation were problems that accompanied the development of social financing. Aware of them, countries and communities have developed a wide set of corrective measures, though with varying degrees of success. Adverse selection has been successfully addressed through compulsory enrollment. Moral hazard has been tackled through copayments, but with little success. Cost escalation has been confronted through cost controls and reimbursement mechanisms in some places and tight supervision and budget limits in others. The success of these policies has been mixed.

Under social financing, equity of access improves because the out-of-pocket cost of care is low. But to preserve equity in the system, the subscription cost of social financing must remain accessible to all. In several countries social financing has been extended through additional government subsidies or via cross-subsidies from prosperous to less well-off population groups (e.g., Ecuador, Mexico). In poorer nations, where social security systems do not exist, social financing is being expanded at community level via individual or household contributions. Evidence gathered by HFS shows that the premiums necessary to cofinance with the government ambulatory and hospital services in public facilities are accessible to a majority

of the population, including the poorest. As stated, research and technical assistance are and will be required by governments and communities that want to find ways to enhance their revenue base for financing health care while preserving equity of access to services.

Role of the private sector

In the late 1970s and early 1980s, cost recovery became a new and controversial concept advanced by a few international experts seeking both to mobilize additional funds to pay for health services and to introduce a mechanism to rationalize demand. The idea of introducing cost recovery generated substantial resistance by governments and experts who feared that requiring users to pay for services would defeat the equity goals of government health systems. Although concerns and controversy persist, the urgent need for additional funds has led many governments and communities to adopt cost recovery. The idea of cofinancing government-provided health services between the government and users is no longer a taboo.

But other important taboos remain. Expanding the role of the private sector in health care is one of them, and one likely to remain an issue throughout the 1990s. The role of the private sector in health care financing and delivery involves several important policy questions. One is whether the private sector could produce services for government. Another is whether a strong, privately financed private sector, would be desirable. These two questions are discussed below in light of HFS research findings.

Publicly funded private production

Public funding of private services is common in industrial countries and becoming more common in developing countries. Both Canada and the United States rely extensively on the private sector for the delivery of health care paid for with public funds; Chile's National Health Fund finances private provision of health care; the government of Tanzania reimburses non-governmental providers for the delivery of certain preventive health services; and Senegal is assisting non-governmental providers with training of health staff.

In most lower income nations, however, government reliance on private provision of health care remains the exception, not the rule. Such a practice would be advantageous to the government—and to society at large—if providing services of a given quality through the private sector cost the government less than producing them itself. For private provision to be advantageous, two conditions must be met:

- ▲ The private sector must be able to produce such services at lower cost
- ▲ The government must find mechanisms for financing private provision that are no more costly than the cost advantage of the private sector.

HFS explored the first question, namely the cost advantages of the private sector. It found that very little research has been conducted to date that compares the relative efficiency of public and private providers. Making such comparison is technically difficult and therefore expensive. In Senegal, HFS concluded that at high volumes of output Catholic health posts were more efficient (had lower unit costs) than government health posts. This finding offered the prospect that the government could benefit from contracting out with Catholic posts for the provision of curative and preventive ambulatory services. However, HFS did not explore which mechanisms could be used to make such a contract possible, or how much alternative mechanisms would cost.

Research is needed to continue to explore the relative efficiency of public and private providers, as well as the mechanisms that may make private production of government-funded care cost-effective. It is, of course, hard to anticipate the costs of alternative contractual mechanisms as that is mainly an empirical question. Research in that area should consist of documenting experiences and describing and identifying the costs, strengths, and weakness of current practices.

Privately-funded private provision

The studies conducted in Senegal and Tanzania both showed the benefits of government coordination in areas where large employers provide services to employees and their families. Strengthening collaboration with non-governmental or non-profit providers, and where relevant, traditional healers, is also

encouraged. For the long term, both studies draw attention to the importance of promoting a favorable policy environment with adequate regulatory and quality assurance controls. A key determinant for the growth of the private sector in health is the expansion of health insurance which could be spurred by the adoption of cost recovery in public hospitals. The development of appropriate policies and financial incentives for public health personnel, particularly physicians and other highly skilled technicians, is another common and complex issue governments face. Few widely accepted solutions exist to date and this is an important topic for further research.

Financial incentives to promote private sector growth must be based on a clear idea of the level of private facility and the type of ownership the government wants to encourage and what are the most cost-effective mechanisms (taxes, credits, subsidies) to encourage such growth. Furthermore, if a large majority of paying patients leave the public sector for the private sector due to perceptions of better quality, it would have a significant impact on cost recovery revenues needed to improve public services.

Impact of HFS Applied Research

Applied research (and technical assistance) activities in health financing are presumed to have long-term effects on the performance of health systems and, thus, on the health of the populations. In the short term, it is difficult, if not impossible, to unambiguously identify any such changes. Some short-term impacts of a research project, like HFS's applied research program, can, however, be identified. Indeed, through applied research HFS was able 1) to advance knowledge about the main policy issues it examined; 2) to influence health financing policies and practices; and 3) to apply successfully various research methodologies for problem identification, solution development, and evaluation. The findings presented in the preceding sections constitute the project's contribution to policy knowledge through applied research. The impact of research on policies and practices, and on research methodologies, is summarized below.

Impact of applied research on health financing policies and practices

Through the policy dialogue that preceded, accompanied, and followed applied research activities, HFS was able to achieve greater awareness and consensus among policy-makers about the main policy issues and options surrounding health financing in each country where it worked. The project also succeeded in improving understanding of key, yet often ignored or misunderstood, health financing concepts. Of particular importance were the project's efforts to illustrate:

- ▲ the gains that can be achieved through cost recovery and the conditions under which these gains can be realized
- ▲ the feasibility and implications of adopting staff incentives for improving the performance of government health systems
- ▲ the advantages and disadvantages of various health financing options such as central tax-based financing, user fees, and social financing
- ▲ the role that the private sector may play in delivering and financing health care.

HFS research activities served the objective of building technical skills among local officials and technicians. Many research activities, particularly those developed over a period of several months or years, involved numerous counterparts who benefited from substantial on-the-job training. Transferred skills included:

- ▲ the use of various survey techniques for assessing health system performance
- ▲ the development and use of computer models to simulate policy change
- ▲ the adoption of technical concepts and language
- ▲ the development of research protocols and analytical frameworks
- ▲ the ability to synthesize complex information.

The conduct of applied research helped promote greater acceptance among local counterparts of the use of economics and management techniques to formulate and evaluate policy in the health sector. Generally, HFS found that achieving significant policy reform is a long-term process and one that requires both continuity in the technical assistance team and heavy involvement by

local counterparts. In a number of countries and for several years HFS was able to involve and maintain a dialogue on health financing policy with government officials. In some cases, recipient countries adopted significant national policy reform based primarily on findings and recommendations of HFS applied research.

In some countries, HFS succeeded in helping to coordinate external assistance to pursue specific policy reform objectives. Also, in some areas, particularly in Western Africa, the project promoted the regional exchange of research methods and findings, thus disseminating information about the diversity of problems, the adoption of alternative research and policy approaches, and the successes and failures of various approaches.

Many applied research activities were typically undertaken in the context of long-term technical assistance to specific countries. HFS found that the synergy between research and technical assistance significantly enhanced the project's ability to maintain a dialogue and to effect policy reform.

Methodological contributions

HFS applied research was guided by a research agenda that was formulated early on in the project's life. A first step in implementing the agenda consisted of carrying out in-depth reviews of the literature and experiences about the agenda's research questions. On the methodological side, HFS authors prepared critical reviews of previous work on a number of policy research questions such as: the measurement of efficiency in the production of health services; the measurement of equity in health; the targeting of health subsidies; the use of incentives to promote efficiency among health providers; analysis of demand factors effecting the efficiency of consumption of health services; exploration of the links between quality, costs, and financial policy; and the assessment of private providers' role.

Project authors also proposed methods for addressing weaknesses or gaps in the existing literature. The outcome from these reviews greatly informed the project's research activities that ensued, and is also expected to serve as a main methodological reference for future applied research.

The reviews of the literature and experiences carried out by HFS demonstrated that research was sparse in many important areas while in others it suffered from design and data weaknesses. The volume, diversity, and quality of HFS applied research constitutes an important contribution to the literature. This contribution comes in the form of additional empirical results on important but under-researched policy questions (e.g., willingness to pay for quality improvements; demand for health care under insurance; demand for insurance, role of quality,

price, and distance in use of health care). The contribution also consisted of testing and fine-tuning various research techniques, including survey methods, model development, econometric estimation of demand, and the measurement of quality and efficiency in health.

In West Africa, HFS developed a major demonstration project to assess and compare over time the effects of two alternative health financing policies (user fees and compulsory insurance) on health system performance. This design could be emulated in other settings that seek to study the pros and cons of various health financing options.

Exhibit 4.2. Summary of HFS recommendations for policy and for future research		
POLICY REFORM AREAS	POLICY OBJECTIVES AND ACTIVITIES	FUTURE RESEARCH NEEDS
IMPROVE QUALITY IN GOVERNMENT SERVICES	<ul style="list-style-type: none"> ▲ Improve staff training and supervision through public funding. 	<ul style="list-style-type: none"> ▲ Research on quality assurance. ▲ Assess costs and benefits from improved training and supervision.
REFORM PHARMACEUTICAL SECTOR	<ul style="list-style-type: none"> ▲ Dismantle inefficient public monopolies for importation and distribution of pharmaceuticals. ▲ Allow private sector to enter the market. ▲ Adopt and effectively enforce essential drug policy. ▲ Develop required regulation and legislation. 	<ul style="list-style-type: none"> ▲ Assessment of efficiency and reliability of existing arrangements. ▲ Industrial organization of pharmaceutical market.
DEVELOP COST RECOVERY	<ul style="list-style-type: none"> ▲ Support adoption of user fees and insurance. ▲ Fund development of improved systems for management of drugs and cash. 	<ul style="list-style-type: none"> ▲ Measure equity and efficiency implications of fees. ▲ Develop and evaluate methods to preserve equity under cost recovery.
STIMULATE APPROPRIATE DEMAND	<ul style="list-style-type: none"> ▲ Invest in education and dissemination of information about benefits from consumption of under-utilized services. ▲ Adopt pricing, reimbursement and other consumer and provider incentives to stimulate demand for and supply of cost-effective services. 	<ul style="list-style-type: none"> ▲ Identify barriers to demand for cost-effective services. ▲ Devise and evaluate policies to overcome such barriers.
PROMOTE SOCIAL FINANCING	<ul style="list-style-type: none"> ▲ Support initiatives to develop social insurance for comprehensive package of health services. 	<ul style="list-style-type: none"> ▲ Develop and evaluate social financing. ▲ Study demand for insurance and for services under insurance.
DECENTRALIZE AND PROVIDE INCENTIVES	<ul style="list-style-type: none"> ▲ Further decentralize health services. ▲ Transfer staff to local level. 	<ul style="list-style-type: none"> ▲ Develop and evaluate incentive schemes.
IMPROVE REIMBURSEMENT METHODS	<ul style="list-style-type: none"> ▲ Adopt new systems for the transfer of public funds to government health service providers. 	<ul style="list-style-type: none"> ▲ Develop and test new methods for the transfer of funds.
DEVELOP PRIVATE SECTOR	<ul style="list-style-type: none"> ▲ Remove barriers to private provision and financing of health services. ▲ Engage private production where advantageous. 	<ul style="list-style-type: none"> ▲ Study cost advantages of private sector. ▲ Develop and assess mechanisms for public funding of private provision.

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